±600-Acre Rocklin Open Space Preserve
City of Rocklin, California

2021 Annual Monitoring Report

January 2022 | 02585.00005.001

Prepared for:

U.S. Army Corps of Engineers
1325 J Street
Sacramento, CA 95814-2922

Prepared by:

HELIX Environmental Planning, Inc.
1677 Eureka Road, Suite 100
Roseville, CA 95661

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TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS (cont.)

LIST OF ATTACHMENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

This report presents the monitoring and reporting activities conducted by HELIX Environmental Planning, Inc. (HELIX) for the Rocklin Open Space Preserve (Preserve) for the 2021 survey season (January 1, 2021 to December 31, 2021). This is the sixth year of monitoring for Claremont (C), Orchard Creek (OC), Stanford Ranch (SR), Sunset West (SW), and Whitney Ranch (WR) Preserves. This is the fourth year of monitoring for the Brighton (B) Preserve, and the third year of monitoring for the Garnet Creek (GC), Parklands North (PN), and Placer Creek Corporate Center (PCCC) Preserves.

The monitoring requirements for each Preserve unit are specified in the May 2015, *City of Rocklin General Open Space Management Plan* (GOSMP). Under the GOSMP, the primary goal is to conserve and protect the functions and values of existing habitats, including vernal pool grasslands, seasonal wetlands, riparian areas, and oak woodlands within the Preserve. The GOSMP requires the preparation of an annual monitoring report to identify whether special-status species occur within the Preserve, to compare the vegetative and hydrologic condition of the Preserve to the recorded baseline conditions, and to make recommendations for active management to address potential problems including vandalism, dumping, invasive species infestations, excessive fuel buildup, and fencing issues. The purpose of the 2021 annual monitoring was to continue to monitor conditions within the Preserve, identify and compare baseline conditions, and conduct special-status species surveys to document whether performance standards are being met within the Preserve.

The ±600-acre Rocklin Open Space Preserve is located in the City of Rocklin, Placer County, California. It is bound by Highway 65 to the west and Interstate 80 to the Southeast and is located within portions of Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, and 17 of Township 11 North, Range 7 East, within the U.S. Geological Survey (USGS) *Roseville* and *Rocklin, California* 7.5-minute topographic quadrangles (38° 48' 57.282" North, Longitude 121° 15' 13.541" West, NAD 83) (Figure 1, *Site and Vicinity*).

Several known populations of special-status species occur within the Preserve including the following:

- Western pond turtle (*Actinemys marmorata*), a Species of Special Concern (SSC) as designated by the California Department of Fish and Wildlife;
- Swainson's hawk (*Buteo swainsoni*), a state-listed threatened species in California that was listed in 1983 by the California Fish and Game Commission;
- Tricolored blackbird (*Agelaius tricolor*), a state-listed threatened species under the California Endangered Species Act;
- Vernal pool fairy shrimp (*Branchinecta lynchi*), a federally-listed threatened species under the federal Endangered Species Act; and
- Hispid bird's-beak (*Chloropyron molle* ssp. *hispidum*), a California Rare Plant Rank 1B.1 as designated by the California Native Plant Society.

1.1 PROJECT BACKGROUND

The City adopted the GOSMP in May 2015 to facilitate the management of all of the City's open space holdings. The GOSMP was adopted following approval by the U.S. Army Corps of Engineers (USACE),

USACE regulatory number SPK-2014-01022. The GOSMP allows combined management of over ±600 acres of open space within nine separate preserves. The GOSMP replaces the previous project-specific management plans for five of the nine Preserve space areas, including the following:

- *Orchard Creek Open Space Preserve Operations and Management Plan*;
- *Whitney Ranch (Sunset Ranchos Phase 1) Open Space Conservation Easement Operations and Management Plan*;
- *Use Plan Addendum to the Operations and Management Plan/Conservation Easement for the Stanford Ranch Open Space Preserve;*
- *Operations and Management Plan for the Claremont (Parcel Sub-sections K) Open Space Preserve*; and
- *General Open Space Management Plan, New Open Space Preserve Package Submittal, Brighton Subdivision*.

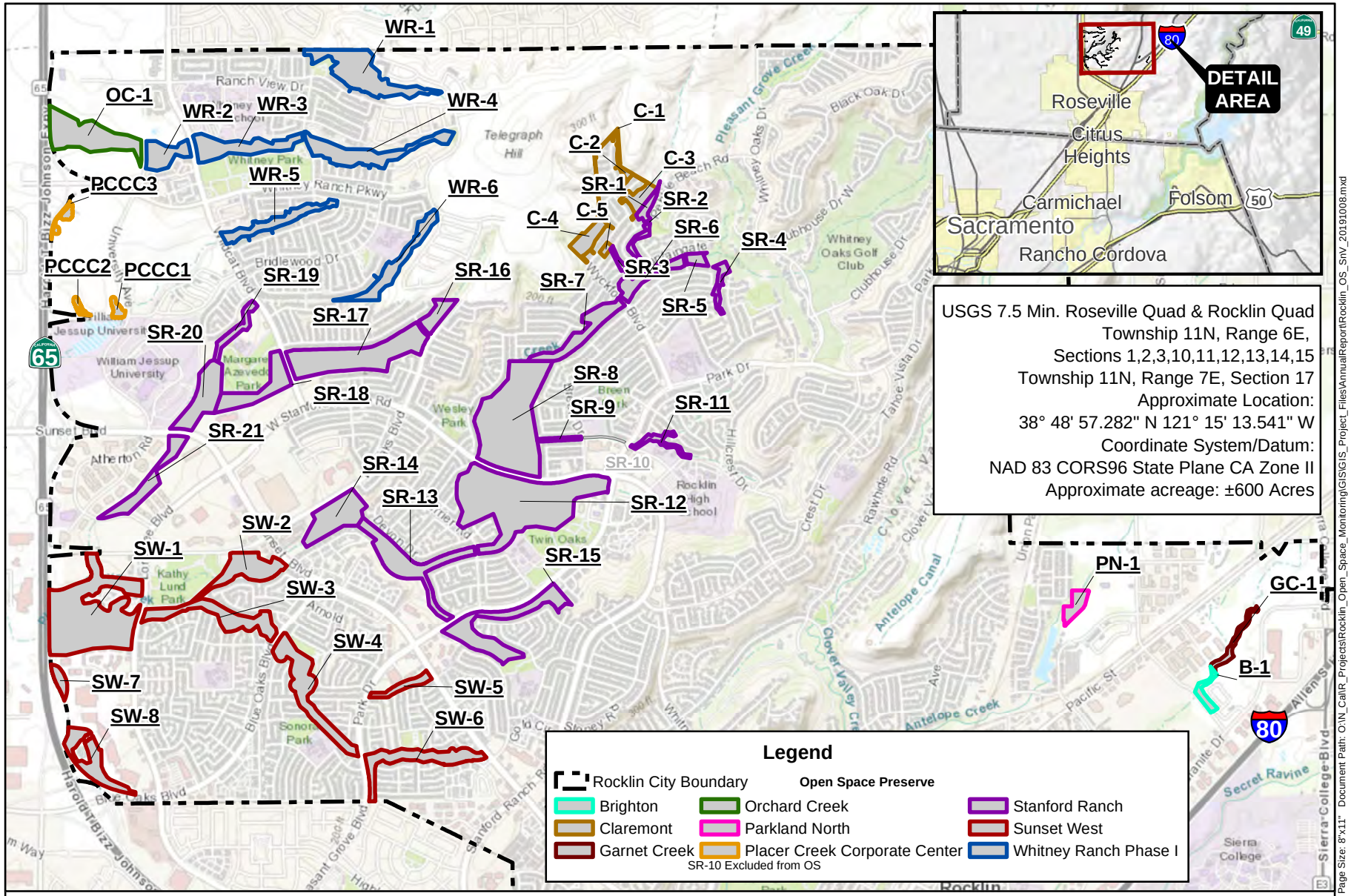
Garnet Creek, Parklands North, and Placer Creek Corporate Center did not have their own Open Space Management Plans prior to being incorporated into the 2015 GOSMP. Table 1 indicates when the survey season Preserve subsections were appended to the 2015 GOSMP and Table 2 identifies the Preserve area by acreage and habitat types, Figure 2, *Rocklin Open Space Preserve Biological Communities*, indicates biological communities within the subsections of the Preserve, and Figure 3, *Rocklin Open Space Preserve Aquatic Resources*, indicates aquatic resources within the subsections of the Preserve.

Table 1
SURVEY SEASON PRESERVE SUBSECTION WAS APPENDED TO THE 2015 GOSMP

2015-2016	2017-2018	2018-2019
Claremont	Brighton	Garnet Creek
Orchard Creek		Parklands North
Stanford Ranch		Placer Creek
Sunset West		
Whitney Ranch		

Table 2
PRESERVE AREA BY ACREAGE AND HABITAT TYPES

Preserve Area	Acreage	Habitat Types and Exiting Conditions
Brighton	±3 acres	Riparian woodland, annual grassland, and perennial marsh.
Claremont	±14.8 acres	Detention basin, pond, seasonal wetlands, open grassland, native and planted oaks, and preserved rock formation.
Garnet Creek	±3.6 acres	Annual grassland, oak woodland, riparian, disturbed/ developed.
Parklands North	±4.6 acres	Riparian and mixed oak woodlands.
Placer Creek Corporate Center	±5 acres	Annual grassland and vernal pool complex.



SITE AND VICINITY

HELIX Environmental Planning

N

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Miles

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Drawn By: JCD

Date: 10/08/2019

FIGURE 1

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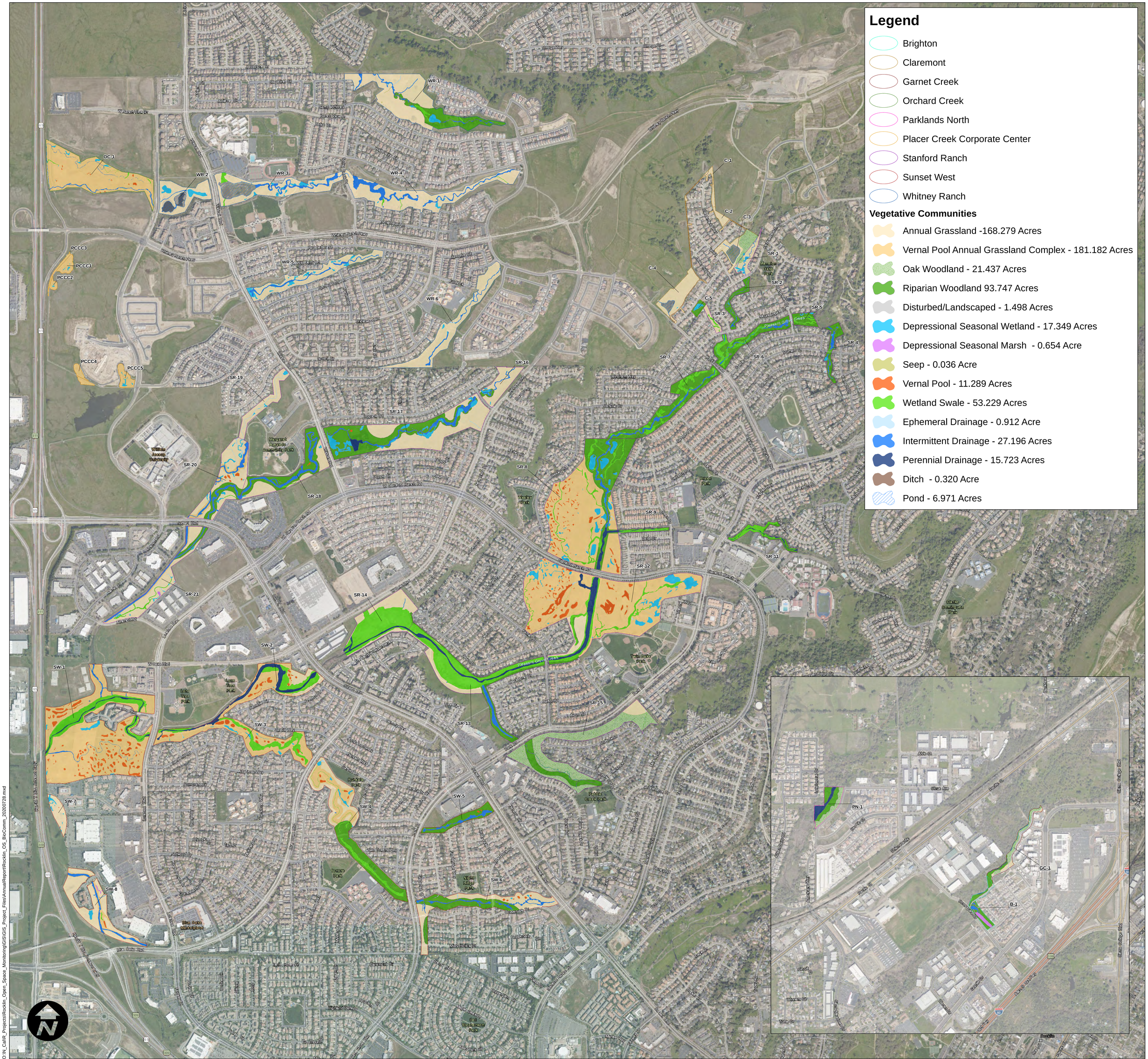

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HELIX Environmental Planning

Rocklin Open Space Preserve Biological Communities

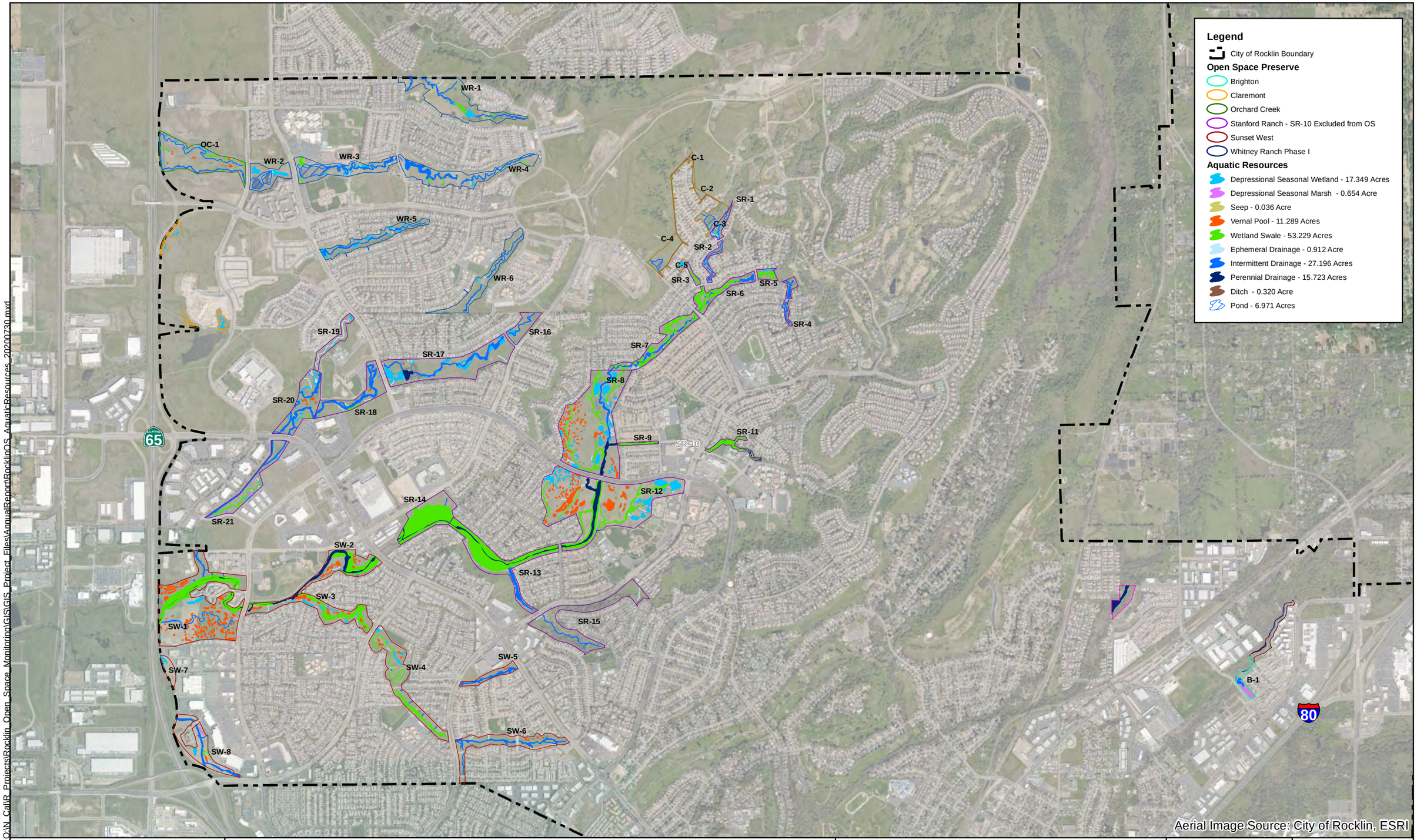
0 600 1,200 2,400

Feet

1 inch = 600 feet

Drawn By: JCD
Date: 08/13/2020

Figure 2



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HELIX Environmental Planning © 2020

ROCKLIN OPEN SPACE PRESERVE AQUATIC RESOURCES

N

0 0.4 0.8
Miles
1 : 24,000

Drawn By: JCD
Date: 08/13/2020

FIGURE 3

ROCKLIN OPEN SPACE PRESERVE

Preserve Area	Acreage	Habitat Types and Exiting Conditions
Orchard Creek	±23.6 acres	Wetland swale, vernal pool, intermittent drainage swale, and annual grassland dominated by invasive species.
Stanford Ranch	±308.2 acres	Annual grassland, riparian, oak woodland, vernal pool, seasonal wetland, and Pleasant Grove Creek.
Sunset West	±146 acres	Annual grassland, riparian, Pleasant Grove Creek, intermittent drainage, drainage swale, historic and created seasonal wetland, wetland swale, and vernal pool.
Whitney Ranch	±91 acres	Annual grassland, drainages, and riparian.

2.0 MONITORING REQUIREMENTS AND METHODOLOGY

Overall Preserve condition monitoring, vernal pool invertebrate and hydrology monitoring, wetland and riparian monitoring, vernal pool floristic monitoring (including invasive plant monitoring), thatch monitoring, and special-status plant and animal surveys are conducted annually as specified by the 2015 GOSMP.

2.1 VERNAL POOL MONITORING AND WESTERN SPADEFOOT TOAD SURVEY

The GOSMP requires 20% of the vernal pools within the Preserve be sampled twice per year for the presence of listed vernal pool branchiopods. A total of 66 pools 20% were randomly selected and monitored in 2021. Figure 4, *Rocklin Open Space Preserve Surveyed Vernal Pools*, identifies vernal pools sampled in 2021. The pools were sampled an extra time in 2021 in an effort to sample after a major rainfall event in winter 2021 given the relative lack of rainfall in the 2021 wet season.

Vernal pool invertebrate surveys were conducted on March 1 and 19 and April 27, 2021. A total of 66 vernal pools were sampled three times within the Rocklin Open Space Preserves during the 2021 season. All surveys were conducted by permitted HELIX biologist Marisa Brilts (Permit No. TE-778195-14.2). The surveys were conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) 2015 *Survey Guidelines for the Listed Large Branchiopods*, with the exception that only wet season sampling was completed, and each pool was sampled three times. The wetlands were sampled by pulling a D-frame, 150-micron aquatic dip net through the water column. The dip net was undulated up and down through the water column to ensure a representative sample was obtained from each of the pools. A minimum of three, five-foot passes were made with the dip net in each sampled pool. No voucher specimens were collected.

The estimated number (e.g., 10s, 100s, 1,000s, etc.) of listed branchiopods along with the presence of common invertebrates, insects, and other wildlife species within each wetland was indicated on the data sheets (Attachment A). Other data collected during sampling included the wetland number, water depth, estimated maximum depth, percent of inundation, water temperature, and general habitat and weather conditions.

Spadefoot toad surveys were conducted in tandem with the invertebrate surveys. The same vernal pools selected for the invertebrate surveys were surveyed for western spadefoot toad. Upland areas were surveyed by walking approximately five-foot wide transects. Particular attention was paid to underground small mammal burrows, and clumps of vegetation. Vernal pool features were inspected and sampled by an approved biologist experienced with western spadefoot identification and behavior. Aquatic sampling included the search for evidence of western spadefoot egg masses and/or tadpoles. Inundated pools were sampled by pulling a D-frame, 150-micron aquatic dip net through the water column. The dip net will be undulated up and down through the water column to ensure a representative sample from each of the features.

2.2 VERNAL POOL FLORISTIC MONITORING

As outlined in the GOSMP, 20% of the vernal pools within the Preserve are to be surveyed. The same group of vernal pools monitored during the invertebrate survey (Figure 4) were monitored during the floristic survey. Plant species with greater than 25% vegetative cover are considered dominant plant species. If no plant species comprise greater than 25% relative cover in a vernal pool, then the plant species with at least 10% relative cover are considered dominant plant species. Vernal pools meet the criteria of being dominated by vernal pool species by having a Prevalence Index of 3 or less.

Monitoring was conducted on April 22, 26-28, May 5, 6, and 10, and June 18, 2021. Surveys were conducted over a range of dates to best capture the peak floristic conditions of pools. Meandering transects were walked through the entire area of each vernal pool and all observed species were recorded (Attachment B), representative photos were taken (Attachment C). Each species observed within the pool was assigned a relative cover score using the Braun-Blanquet scale from 0-5 (Table 3).

Table 3
BRAUN BLANQUET SCALE

Scale	Relative Cover Range
0	<1%
1	1-5%
2	6-25%
3	26-50%
4	50-75%
5	>75%

2.3 SPECIAL-STATUS PLANT SURVEYS

Although the GOSMP identifies six special-status plant species with the potential to occur in the Preserve, five are not known from the Rocklin area due to improper soils, habitat, or elevations range and include: Stebbin's morning-glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), El Dorado bedstraw (*Galium californicum* ssp*. sierrae*), Tahoe yellow-cress (*Rorippa subumbellata*) and Layne's butterweed (ragwort; [*Packera layneae*]). The sixth species referenced in the GOSMP, Sacramento Orcutt grass (*Orcuttia viscidia*), has the potential to occur within the Preserve. Prior to the start of the survey season, queries for special-status plants with the potential to occur in the region were conducted. All references reviewed for this assessment are listed in the References section including the California Natural Diversity Database (CNDDB). The CNDDB is an inventory of the status and location of rare plants and animals in California. Additionally, the California Native Plant Society

Legend

- 2021 Surveyed Vernal Pool
- Pools Not Surveyed

Preserve Boundaries

- Claremont
- Orchard Creek
- Placer Creek
- Stanford Ranch
- Sunset West
- Whitney Ranch Phase I

63 70 67 2 69 323 311 316 330 285 74 214 232 52 207 209 236 100 235 42 231 224 115 109 241 264 76 54 127 247 132 124 60 135 30 164 284 302 19 161 21 156 155 295 145 292 289 183 176 9 182 7 276 201 272 10 11 194 190 189 140 269 138 141 62 61

Whitney Ranch View Dr; Wildcat Blvd; Lavastone Dr; Abilene Cir; Stageline Cir; Fox Den Cir; Ingham-Hawes Park; Old Ranch House Rd; Laredo; Whitney High School; Calico Dr; Ranch View Dr; Wild Plains Cir; Creek Hollow Rd; Whitney Park; Sunny Creek Dr; Broken Rail Ln; Baronial Ln; Whitney Ranch Pkwy; Red Setter Rd; Apple Grey Ln; Campfire Cir; Shady Acres Loop; Clementine Dr; Broken Bit Ln; Painted Pony Ln; Silver Saddle Ln; Spotted Pony Ln; Aubree Ln; Browning Ln; Sunset Ranch Elementary School; Bolton Park; Anvil Ct; Dusty Stone Loop; Stage Stop Loop; Golden Trail St; Hoot Owl Loop; Wyckford Blvd; Sorrell Cir; Spur Ct; Lion St; Sagittaria Cir; University Ave; Orchid Dr; Larkspur Dr; Syracuse Dr; Redmond Dr; Forsyth Dr; William Jessup University; Margaret Azevedo Park; Iroquois Rd; Evan Ct; Piute St; Brandon Dr; Holly Ct; Windham Way; Augusta Way; Genesee Dr; Hunter Dr; Talon Rd; Archer Cir; Wesley Rd; Camden Rd; Poppy Cir; Poppy Dr; Sage Dr; W Stanford Ranch Rd; Skibbereen Way; Decatur Way; Monroe Way; Timbrel Way; Saratoga Cir; Vista Dr; Swindon Rd; Breen Elementary School; Orbrillo Way; Delta Dr; Isle St; Breen Dr; W Oaks Blvd; Harvest Rd; Salem Way; Darby Rd; Jersey Dr; Sunset Blvd; Atherton Rd; Menlo Dr; Western Sierra Collegiate Academy; Devon Dr; Fleet Cir; Farmer Rd; Twin Oaks Elementary School; Twin Oaks Park; Blackstone Dr; Club Dr; Balfor Rd; Avon Rd; Park Dr; Outlook Dr; Blackrock Rd; Mines Cir; Terrace Dr; Pebble Creek Park; Cobblestone Elementary School; Stanford Ranch Rd; Leland St; Summit Dr; Stoney Rd; Ford Rd; Midas Ave; Gold Cir; Pebble Creek Dr; Strand Rd; River Run Cir; Eagle; Bunker Dr; Sunset Blvd; Plaza Dr; Silvermill Way; Maple Creek Dr; Alder Park Cir; Rosebridge Dr; Fairway Dr; Highland Park Dr; Roycroft Dr; Kelmscott Ln; Belle Rose Cir; Malta Dr; Cortina Cir; Loop; Sienna; Roseville Crossings; Aldo Pineschi Sr. Park; Highland Reserve North; Target; Dante Cir; Rosehall Dr; Greenburn Dr; Millport Dr; Thrive Dr; Fairway Dr; Harold T. Bizz Johnson Expy; Redwood Dr; Grand Canyon Dr; McKinley St; Blue Oaks Blvd; Blue Oaks Marketplace; Sonora Park; Sonora Pass Way; Powder Ridge Dr; Rock Creek Elementary School; Park Dr; Solitude Way; Frost Ridge Way; Amber Falls Dr; Night Ridge Park; Little Rock Rd; Quarry Way; Vail Ct; Misty Hollow Dr; Pleasant Grove Creek; Kathy Lund Park; Camellia Cir; Azalea Way; Preston Cir; Cassin Way; Sammy Way; Vine Cir; Arnold Dr; Canary Dr; Albatross Way; Cormorant Cir; Sand Hill Rd; Lonetree Blvd; Adams Dr; Brant Way; Turnstone Dr; Turnstone Way; Larkspur Dr; Forsyth Dr; Iroquois Rd; Hendry Cir; Pebble Creek Park; Cobblestone Elementary School; Twin Oaks Park; Pleasant Grove Creek; Wildcat Blvd; Sunset Blvd; Whitney Ranch Pkwy; Harold T. Bizz Johnson Expy; 65

0 1,200 Feet

Source: Aerial Imagery (DigitalGlobe, 2020)

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HELIX Environmental Planning

Rocklin Open Space Preserve Surveyed Vernal Pools 2021

Figure 4

(CNPS) occurrence database was queried. CNPS maintains records of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under the California Environmental Quality Act (CEQA) review. The CNPS ranks are defined below:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

Upon review of the above-referenced databases, numerous special-status plant species have the potential to occur within the region (Attachment D). The following special-status plant species have the potential to occur within the Preserve: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii)*, big-scale balsamroot (*Balsamorhiza macrolepis*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*), dwarf downingia (*Downingia pusilla*), hispid salty bird's-beak (*Chloropyron molle* ssp*. hispidum*), legenere (*Legenere limosa*), pincushion navarretia *(Navarretia myersii* ssp. *myersii)*, Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), Sacramento Orcutt grass (*Orcuttia viscida*), Sanford's arrowhead *(Sagittaria sanfordii*), stinkbells (*Fritillaria agrestis*), and valley brodiaea (*Brodiaea rosea* ssp. *vallicola*).

Surveys for these species were conducted concurrently with floristic, biological, and wetland monitoring to ensure surveys were conducted in appropriate habitat types for these species and during the appropriate bloom period to best identify the species if they were present (Table 4).

Table 4
KNOWN AND POTENTIAL HABITAT FOR SPECIAL-STATUS PLANT SPECIES

Habitat Type	Common Name	Scientific Name	Bloom Period	Status		
				Federal	State	CNPS
Alkali Sink	⧗ Hispid salty bird's-beak	*Cordylanthus mollis* ssp. *hispidus*	June - September	~	~	1B
Annual Grassland	*Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	March - May	~	~	1B
	*Big-scale balsamroot	*Balsamorhiza macrolepis*	March - June	~	~	1B.2
	*Brandegee's clarkia	*Clarkia biloba* ssp*. brandegeeae*	May - June	~	~	4.2
	*Red Bluff dwarf rush	*Juncus leiospermus*	March - May	~	~	1B
	*Stinkbells	*Fritillaria agrestis*	March - June	~	~	4.2
	*Valley brodiaea	*Brodiaea rosea* ssp. *vallicola*	April - May (June)	~	~	4.2
Oak Woodland	*Big-scale balsamroot	*Balsamorhiza macrolepis*	March - June	~	~	1B.2
	*Brandegee's clarkia	*Clarkia biloba* ssp*. brandegeeae*	May - June	~	~	4.2
	*Stinkbells	*Fritillaria agrestis*	March - June	~	~	4.2
Riparian Woodland	*Big-scale balsamroot	*Balsamorhiza macrolepis*	March - June	~	~	1B.2

Habitat Type	Common Name	Scientific Name	Bloom Period	Status		
				Federal	State	CNPS
Seasonal Wetland	*Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	March - May	~	~	1B
	*Legenere	*Legenere limosa*	April - June	~	~	1B
	Sanford's arrowhead	*Sagittaria sanfordii*	May - October	~	~	1B.1
Vernal Pool	*Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	March - May	~	~	1B
	*Boggs Lake hedge-hyssop	*Gratiola heterosepala*	April - July	~	E	1B
	*Legenere	*Legenere limosa*	April - June	~	~	1B
	*Red Bluff dwarf rush	*Juncus leiospermus*	March - May	~	~	1B
	*Valley brodiaea	*Brodiaea rosea* ssp. *vallicola*	April - May (June)	~	~	4.2
	dwarf downingia	*Downingia pusilla*	March - May	~	~	2B
	pincushion navarretia	*Navarretia myersii* ssp. *myersii*	April - May	~	~	1B
	Sacramento Orcutt grass	*Orcuttia viscida*	April - June	E	E	1B.1

(ɤ) Species present within the Preserve
(*) Species has the potential to occur in multiple habitats within the Preserve.
(E) Endangered
(1B.#) Plant is rare throughout its range and primarily endemic to California.
(2B) Plant meets the definitions of the CESA and is eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA.
(4.2) Plant has limited distribution or occurs infrequently throughout a broader area in California.

2.4 WETLAND AND RIPARIAN MONITORING

Monitoring of wetland and riparian areas were conducted on May 12 and 16, July 27-30, and August 13, 2021. Additional observations were made during the recurring monitoring visits associated with other annual motoring task during 2021. Wetland and riparian areas were examined within the Preserve on foot, where accessible, to evaluate existing conditions and determine areas with restoration potential. Problematic areas were identified and mapped using ArcGIS Collector or similar GPS application to address various issues including erosion, beaver activity, impacted culverts, invasive plant species, trash accumulation, and other disturbances within wetland and riparian areas (Figures 5A through 5C, *Wetland and Riparian Monitoring*; Attachment E).

Erosion

Erosion is a natural occurring process within the upland and aquatic habitats throughout the Preserve. Historic land practices, as well as present land use and development, have resulted in an anthropogenically altered landscape where features such as channelized drainages, stormwater outfalls from developed areas, and culverted crossings are common. Recurring erosion is expected to occur via surface runoff associated with bare and/or sparsely vegetated landscapes adjacent to aquatic resources, however some problematic areas where episodic erosion has occurred, or is anticipated to occur, were identified during the 2021 wetland and riparian monitoring efforts. Examples of episodic erosion sites noted within the Preserve during erosion monitoring include gullies and rill complexes, stream bank scour/instability, and channel incising/headcutting.

Beaver Activity

Aquatic resources within the Preserve are known to host beavers and as a result are occasionally impounded by their dams. The dams typically consist of fine to medium-sized woody debris, mud, and

Rocklin Open Space Preserve

Legend

- D Disturbance
- E Erosion Site
- T Trash
- Claremont
- Orchard Creek
- Placer Creek Corporate Center
- Stanford Ranch*
- Whitney Ranch

OC-1
WR-1
WR-2
WR-3
WR-4
WR-5
WR-6
C-1
C-2
C-3
C-4
C-5
SR-1
SR-2
SR-3
SR-4
SR-5
SR-6
SR-7
SR-8
SR-9
SR-10
SR-11
SR-16
SR-17
SR-18
SR-19
SR-20
SR-21
PCCC1
PCCC2
PCCC3
PCCC4
PCCC5

Ranch View Dr
Modoc St
Plute Way
Yuma Way
Pebble Beach Rd
Whitney Oaks Dr
Whitney Ranch Pkwy
Whitney Blvd
Briddlewood Dr
Sorrell Cir
Mountaingate Dr
Charter Rd
Wyckford Blvd
Wildcat Blvd
W Oaks Blvd
Oaks Blvd
W Stanford Ranch Rd
Park Dr
Sunset Blvd
65

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0 1,000 Feet

Source: Aerial (City of Rocklin, 2018).

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Wetland and Riparian Monitoring

Figure 5A

Rocklin Open Space Preserve

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0 1,000 Feet

Source: Aerial (City of Rocklin, 2018).

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Wetland and Riparian Monitoring

Figure 5B

Rocklin Open Space Preserve

Legend

- Erosion Site
- Trash
- Brighton
- Garnet Creek
- Parklands North

Lakebreeze Dr

PN-1

Aitken Dairy Rd

Pacific St

Yankee Hill Rd

GC-1

B-1

0 500 Feet

Source: Aerial (City of Rocklin, 2018).

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HELIX Environmental Planning

Wetland and Riparian Monitoring

Figure 5C

emergent vegetation. Concerns relating to beaver activity include falling of riparian trees and backwatering of drainages that pose potential impacts to infrastructure in the event of a breached dam at high flow events. Although beaver dams can enhance or create wetlands, they can also negatively impact biological communities that have potential to host special-status plant and/or wildlife species by inundating, or prolonging inundation, in otherwise favorable habitat. In more extreme cases where beaver activity has not been abated, dams can also act as a barrier for passage of aquatic wildlife including, but not limited salmonids. Areas where beaver activities may cause flooding that could negatively impact infrastructure, or adjacent biological communities, were noted during annual monitoring and may require consideration of dam removal in some instances.

Culverts

There are many culverts throughout the Preserve associated with road crossings and storm water outfalls from adjacent developed areas. Culverts within the Preserve were monitored for potential issues that may inhibit flow, cause erosion, or result in damage/failure of the culvert or associated infrastructure. Common issues associated with culverts include corrosion or other failures of corrugated metal pipes (CMP), accumulated debris in trash racks impeding flow, freefall or "hanging" culvert outlets, and a lack of energy dissipation and/or rock outlet protection at outfall locations. Concrete box culverts are common within, or adjacent to, the Preserve on larger drainages and were included in the monitoring.

Disturbances

Other issues that are monitored in the Preserve include the presence of trash accumulation, vandalism, and other ground disturbances. Areas where significant trash accumulation was observed were mapped and include tree forts, shopping carts, and other large items. Other disturbances were documented that are primarily associated with the human/preserve interface with the potential to cause a detriment to wetland and riparian habitats (Figures 5A-C). Invasive plant species are a substantial threat to riparian habitat and is further described in the results section. Representative photos are located in Attachment E.

2.5 BIOLOGICAL SURVEY

The annual biological survey evaluates the form and function of habitats within the Preserve. These surveys were conducted concurrently with other annual monitoring tasks within the Preserve. Biological surveys focused on overall habitat function and plant and wildlife species (see Attachment F and G).

2.6 HISPID SALTY BIRD'S-BEAK SURVEY

The survey includes general observations regarding the condition of the known populations of hispid salty bird's-beak within the Preserve, as well as specific information on the hydrologic condition, plant associations within the Preserve subsection, and effects of grazing. Information collected includes the extent of hispid salty bird's-beak populations, changes in species composition or cover year over year, and introduction of non-native or invasive plants in the Preserve that may affect populations of hispid salty bird's beak. Occupied habitat was mapped on July 1, 2021, using the ArcGIS Collector or similar GPS application. Abundance was assessed semi-quantitatively using abundance categories (i.e., 0, 1-5, 6 -25, 26-50, 51-75, etc.) (Figure 6, *Rocklin Open Space Preserve Hispid Bird's-Beak*).

2.7 INVASIVE PLANT MONITORING

As part of the ongoing annual monitoring, invasive plant species surveys were conducted on August 9-13 and 16, and July 29 and 30, 2021. . Baseline data was collected in the fall of 2018 and summer of 2019 for the Garnet Creek, Parklands North, and Placer Creek Corporate Center Open Space Preserve, in the fall of 2017 for the Brighton Preserve, and in the fall of 2015 for Claremont, Orchard Creek, Stanford Ranch, Sunset West, and Whitney Ranch preserves.

Random transects spaced approximately 50 feet apart were walked throughout the Preserves to ensure total visual coverage. Locations of invasive species were recorded or updated using ArcGIS Collector or similar GPS application . Single occurrences or populations of plants less than approximately 2-feet by 2-feet in size were mapped as points, and larger populations of plants were mapped as polygons (Figures 7-A through 7-I, *Rocklin Open Space Invasive Species*).

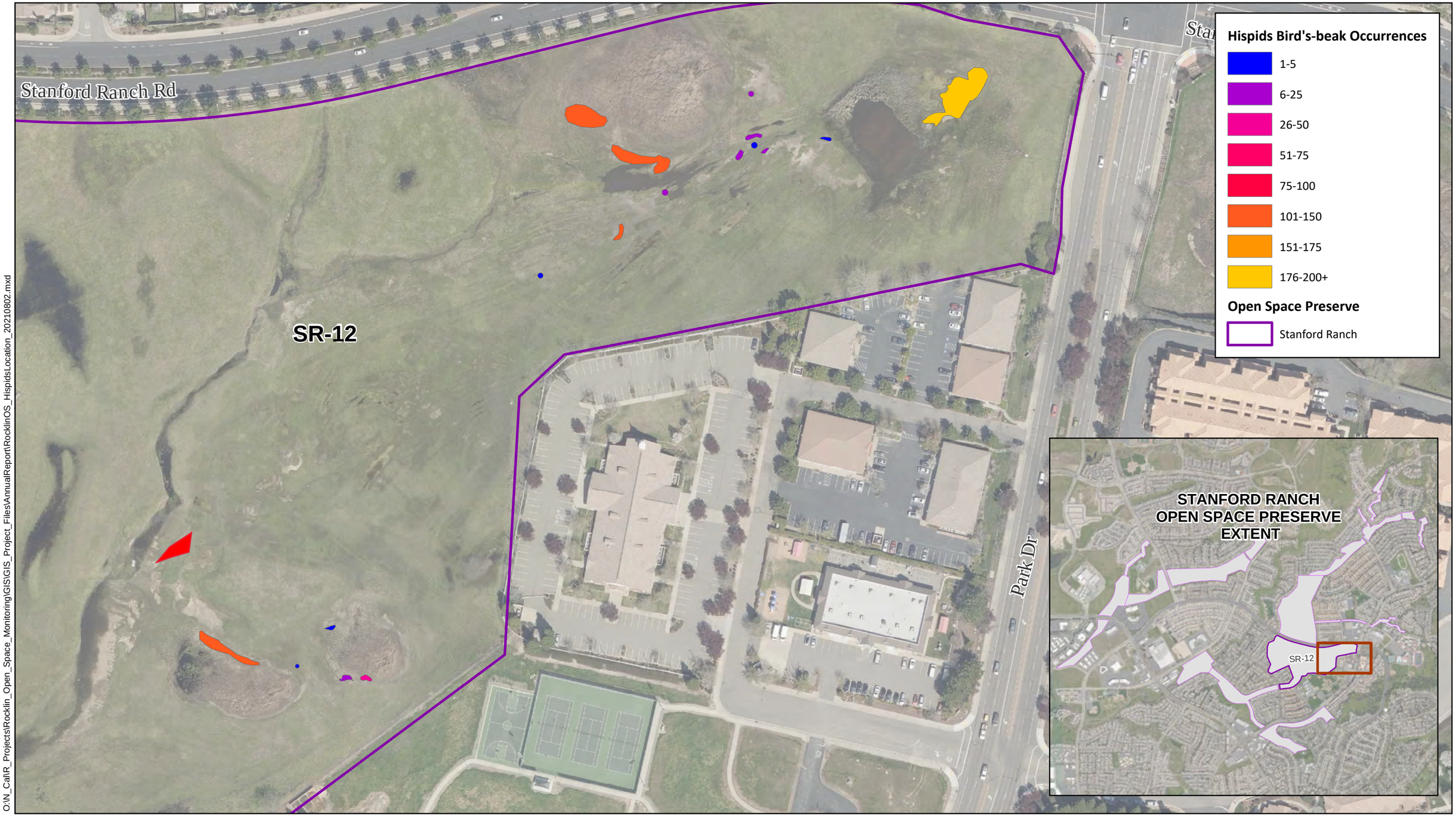
2.8 TRICOLORED BLACKBIRD SURVEY

Tricolored blackbirds are known to forage and nest within the Preserve. A small colony exhibiting nesting behavior has been documented in Whitney Ranch (WR-2) and foraging activity has been observed within the two adjacent Preserves subsections, Orchard Creek and Whitney Ranch (WR-3) in 2019 and 2020. During the breeding season (April to August) potential nesting habitat within Whitney Ranch (WR-2) was visited to determine the presence or absence of tricolored blackbird colonies.

2.9 THATCH MONITORING

To evaluate the effectiveness of the grazing program and to maintain the target residual dry matter (RDM) level, the GOSMP identified the target RDM for the Preserve as no more than 1,200 pounds per acre(lbs./acre) but did not set a minimum RDM target. The typical RDM objective for California annual grassland is an RDM between 800 to 1,200 lbs./acre. The typical minimum RDM objective for hardwoods with 50 to 75% cover is 400 lbs./acre for a 20 to 40% slope and can be as low as 200 lbs./acre on flatter areas, per the University of California Division of Agriculture and Natural Resources 2006 *Guidelines for Residual Dry Matter on Coastal and Foothill Rangelands* (Bartolome et al. 2006). Since many of the creek corridors are heavily sloped, the target RDM range for oak woodland areas is established as 400 to 1,200 lbs./acre. Areas with RDM exceeding 1,200 lbs./acre are considered to have excess vegetation growth and increased grazing or mowing practices should be implemented, while areas with RDM below the target range are considered overgrazed and stocking rates should be reduced.

A total of 48 RDM sampling points were analyzed by HELIX biologists on September 1-3 and 9, 2021. Figures 8-A through 8-I, *Rocklin Open Space Grazing Pressure Recommendations*, identifies sampled RDM locations as well as recommended grazing pressure for the 2022 grazing season based on the 2021 survey results. HELIX biologists clipped 1-foot square plots of vegetation as outlined in the Guidelines. The location of the previously established RDM location test plots were located and monitored using ArcGIS Collector or similar GPS application. Vegetation samples were clipped and weighed in the field (Attachment H). Care was taken during the sampling to collect only dried grass and avoid new growth. Pictures were taken from 10 and 20 feet from the RDM sampling point prior to clipping the vegetation to show vegetation quantity and height (Attachment I).



O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_HispidsLocation_20210802.mxd

0 125 Feet

Source: Aerial (City of Rocklin, 2018).

HELIX Environmental Planning

Rocklin Open Space Preserve Hispid Bird's-Beak 7/1/2021

Figure 6

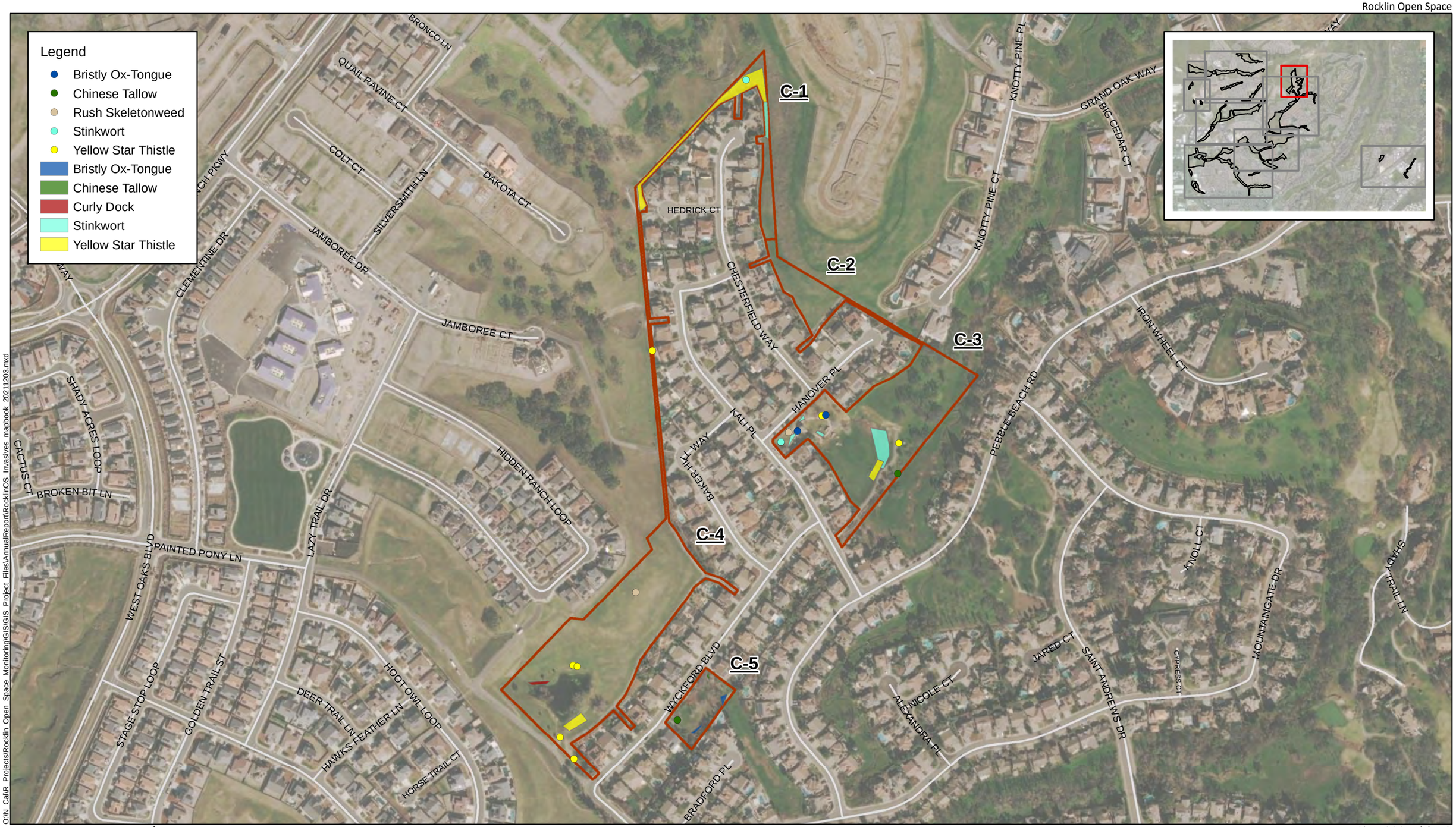
0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Brighton/Garnet Creek Invasive Species

Figure 7-A



O:\N Cal\R Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Claremont Invasive Species

Figure 7-B

Legend

- Black Mustard
- Bristly Ox-Tongue
- Curly Dock
- Italian Thistle
- Stinkwort
- Summer Mustard
- Tree of Heaven
- Yellow Star Thistle

- Black Mustard
- Curly Dock
- Italian Thistle
- Stinkwort
- Yellow Star Thistle

OC-1

HWY 65 S

HWY 65 N

WHITNEY RANCH PKWY ON N

WHITNEY RANCH PKWY ON S

WILDCAT BLVD

O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

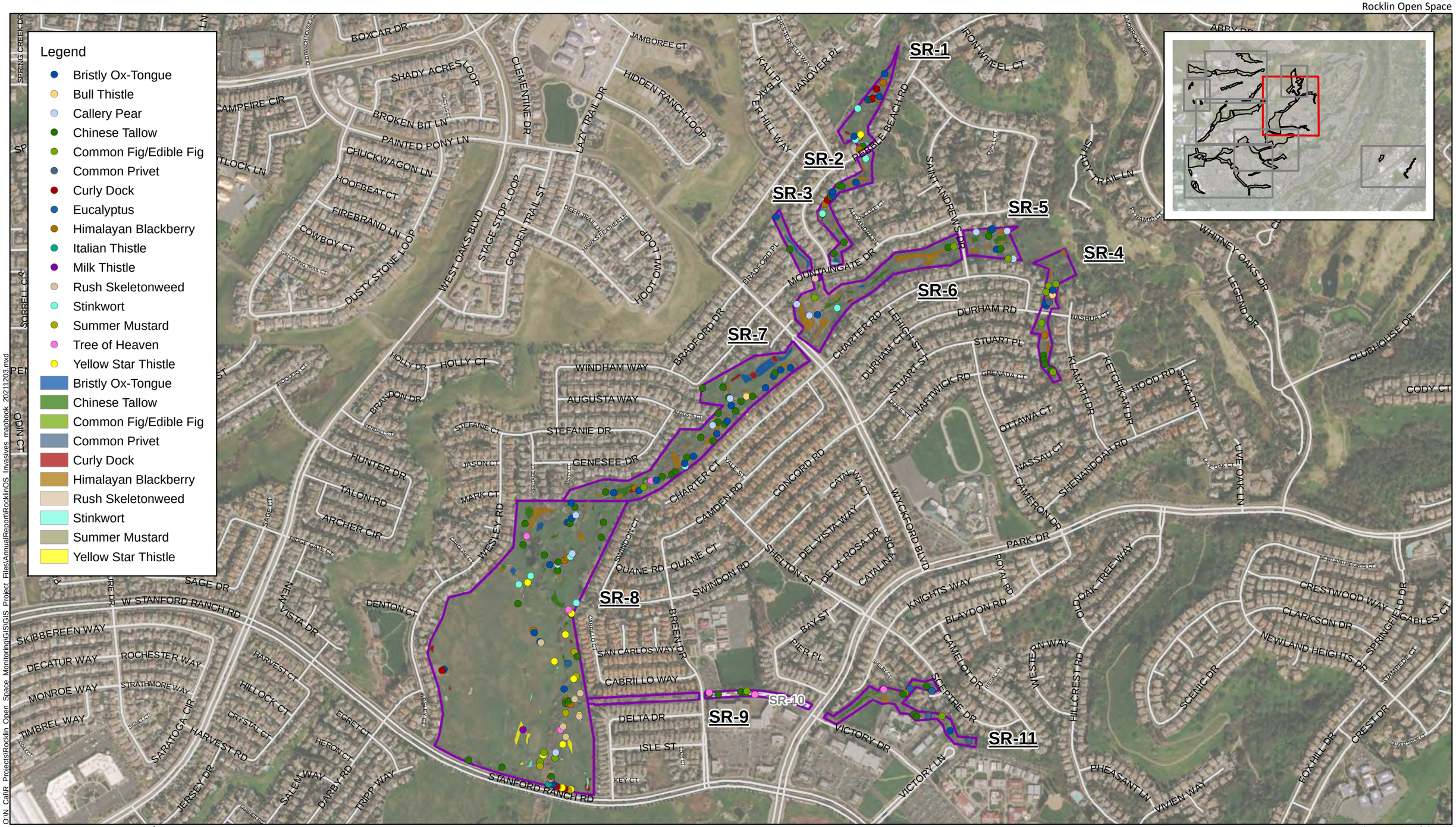
0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Orchard Creek Invasive Species

Figure 7-C



O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

HELIX Environmental Planning

Rocklin Open Space - Stanford Ranch 1 Invasive Species

Figure 7-D

0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

O:\N_CalR_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

HELIX Environmental Planning

Rocklin Open Space - Stanford Ranch 2 Invasive Species

Figure 7-E

Legend

- Bristly Ox-Tongue
- Bull Thistle
- Callery Pear
- Chinese Tallow
- Common Fig/Edible Fig
- Curly Dock
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Pampas Grass
- Rush Skeletonweed
- Stinkwort
- Summer Mustard
- Tree of Heaven
- Yellow Star Thistle
- Black Mustard
- Bristly Ox-Tongue
- Callery Pear
- Chinese Tallow
- Curly Dock
- Himalayan Blackberry
- Italian Thistle
- Rose Clover
- Rush Skeletonweed
- Stinkwort
- Summer Mustard
- Yellow Star Thistle

SR-17
SR-18
SR-19
SR-20
SR-21

ORCHID DR
LARKSPUR DR
ACORN LN
PEONY DR
FORSYTHIA DR
BRIDLEWOOD DR
VIBURNUM LN
BRODEA LN
SAGITTARIA CT
GEORGE TOWN WAY
HALIFAX WAY
SYRACUSE DR
ALBANY WAY
REDMOND DR
SORRELL CIR
ANVIL CIR
SPUR CT
DUSTY STONE LOOP
GOLDEN TRAIL ST
PENINSULA DR
PENINSULA CT
SEDONA CT
PIMA ST
WILDCAT BLVD
SEDONA ST
REGINA ST
ODIN CT
THOR CT
TY CT
EVAN CT
CLIPPER CT
CLIPPER RD
PIUTE ST
IROQUOIS CT
IROQUOIS RD
HOLLY DR
HOLLY CT
BRANDON DR
KENDALL CT
STEFANIE CT
JASON CT
MARK CT
WESLEY RD
HUNTER DR
TALON RD
ARCHER CIR
SAGE CT
RIDGE GATE CT
IRON POINT CT
CAROLINE CT
POPPY CIR
POPPY DR
SAGE DR
TREASURE DR
NEW VISTA DR
DENTON CT
W STANFORD RANCH RD
SKIBBEREEN WAY
DECATUR WAY
ROCHESTER WAY
MONROE WAY
TIMBREL WAY
STRATHMORE WAY
SIGNET CT
ADDAX CT
MONROE CT
SARATOGA CIR
WEST OAKS BLVD
HARVEST RD
HARVEST CT
HILLOCK CT
CRYSTAL CT
STANFORD RANCH RD
EGRET CT
HERON CT
WESLEY CT
JERSEY DR
HEATH CT
CHUMLEY CT
DEVON DR
GREENWICH CT
MERIDIAN WAY
SUNSET BLVD
SUNSET BL
MENLO DR
W LONETREE BLVD
HWY 65 N

O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

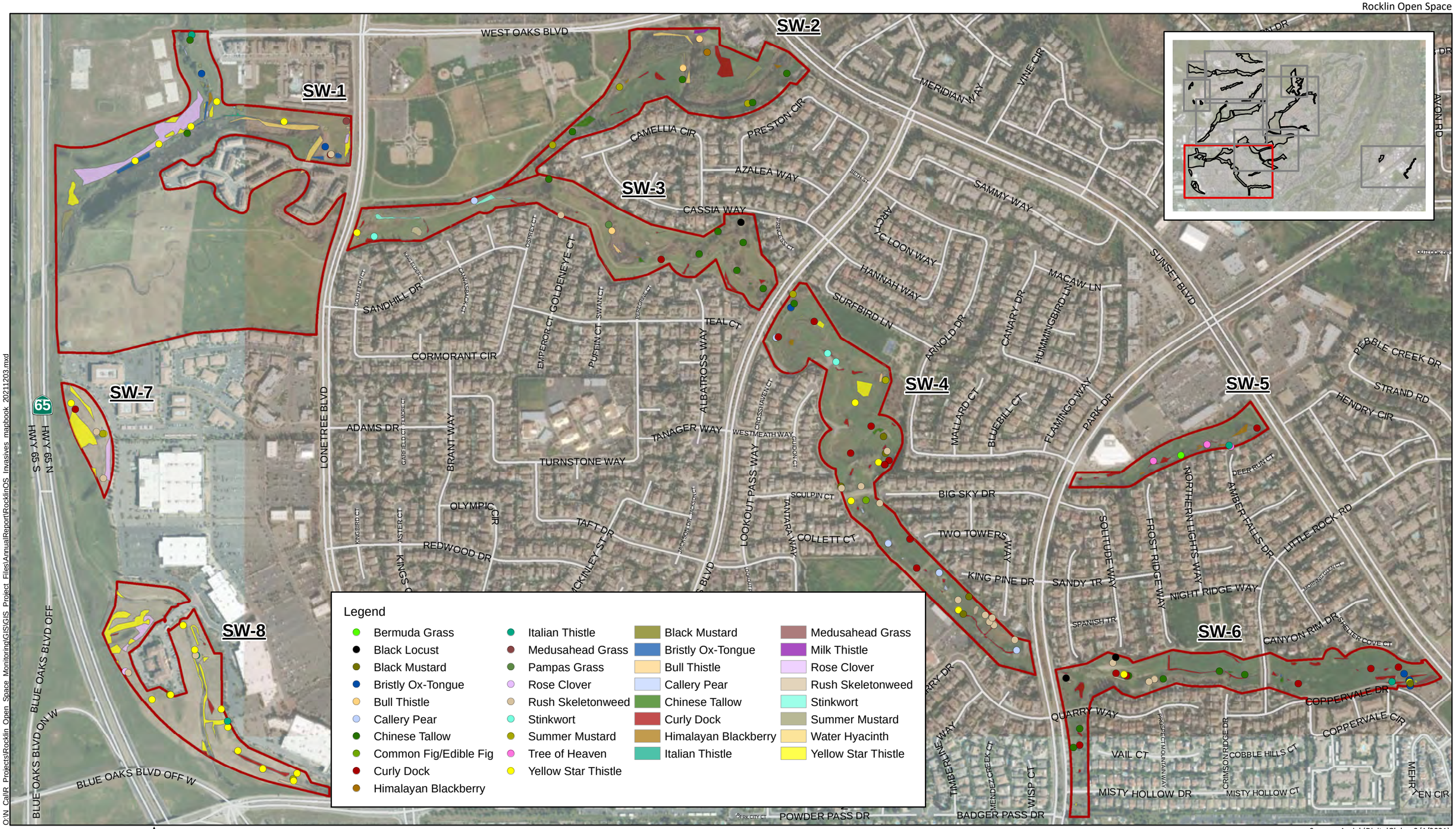
0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Stanford Ranch 3 Invasive Species

Figure 7-F



O:\N_CalR_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Sunset West Invasive Species

Figure 7-G

Legend

- Black Mustard
- Bristly Ox-Tongue
- Callery Pear
- Chinese Tallow
- Curly Dock
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Rush Skeletonweed
- Stinkwort
- Yellow Star Thistle
- Black Mustard
- Bristly Ox-Tongue
- Curly Dock
- Himalayan Blackberry
- Italian Thistle
- Milk Thistle
- Rush Skeletonweed
- Stinkwort
- Yellow Star Thistle

WR-1
WR-2
WR-3
WR-4
WR-5
WR-6
PCCC-1
PCCC-2
PCCC-4
PCCC-5

ABILENE CIR
STAGELINE CIR
CAMP WHITNEY CIR
TELEGRAPH HILL DR
TELEGRAPH HILL CT
WOODROW LN
HIDDEN TRAIL LOOP
WHISPERING CREEK LOOP
SADDLEROCK CT
OLD RANCH HOUSE RD
LAREDO DR
BERRY CREEK DR
LAZY CREEK DR
GENTLE BREEZE WAY
GRAY DAWN DR
TRAIL DUST LN
RANCH VIEW DR
WILD PLAINS CIR
CREEK HOLLOW DR
CALICO DR
WAGON TRAIL WAY
CALICO CT
UNIVERSITY AV
SPRING CREEK DR
SONGBIRD WAY
BOXCAR DR
BARONIAL CT
BARONIAL LN
BROKEN RAIL LN
WHITNEY RANCH PKWY
JAMBOREE DR
CLEMENTINE DR
SHADY ACRES LOOP
CACTUS CT
BROKEN BIT CT
BROKEN BIT LN
PAINTED PONY LN
CHUCKWAGON LN
CAMPFIRE CIR
MORNING DOVE LN
FLINTLOCK LN
DUSTY STONE LOOP
COWBOY
GALLOPING TRAIL CT
RED SETTER RD
WILD BERRY LN
APPLE GREY LN
WILDERNESS WAY
ARROYO SIERRA WAY
SPOTTED PONY LN
FARM HOUSE LN
FARM HOUSE CT
SILVER SADDLE LN
COUGAR CT
FLATIRON LN
BOARDING HOUSE CT
STATION HOUSE LN
AUBREE LN
BROWNING LN
BRIDLEWOOD DR
SORRELL CIR
SPUR CT
ANVIL CT
ANVIL CIR
WILDCAT BLVD
CHEETAH ST
PANTHER CT
PUMA ST
LION ST
SAGITTARIA CIR
STARFLOWER LN
GOLDENROD WAY
ORCHID CT
ORCHID DR
SAGITTARIA CT
UNIVERSITY AVE
LARKSPUR DR
BRODEA LN
VIBURNUM LN
PEONY DR
SYRACUSE DR
GEORGETOWN WAY
REDMOND DR

0 350 Feet

Source: Aerial (DigitalGlobe, 3/4/2021).

O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

HELIX Environmental Planning

Rocklin Open Space - Whitney Ranch Phase I Invasive Species

Figure 7-H

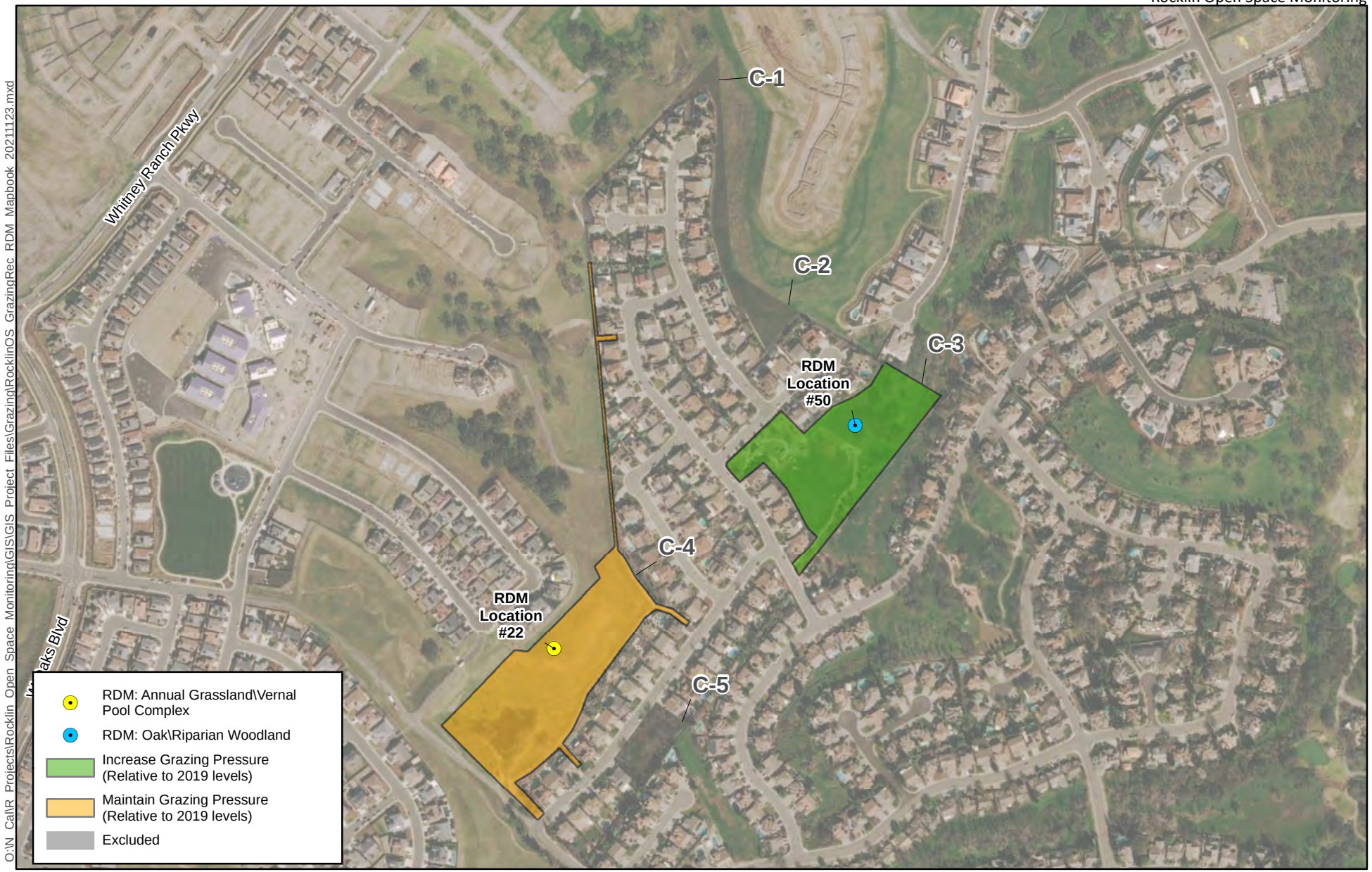
O:\N_Cal\R_Projects\Rocklin_Open_Space_Monitoring\GIS\GIS_Project_Files\AnnualReport\RocklinOS_Invasives_mapbook_20211203.mxd

Source: Aerial (DigitalGlobe, 3/4/2021).

HELIX Environmental Planning

Rocklin Open Space - Placer Creek Invasive Species

Figure 7-I



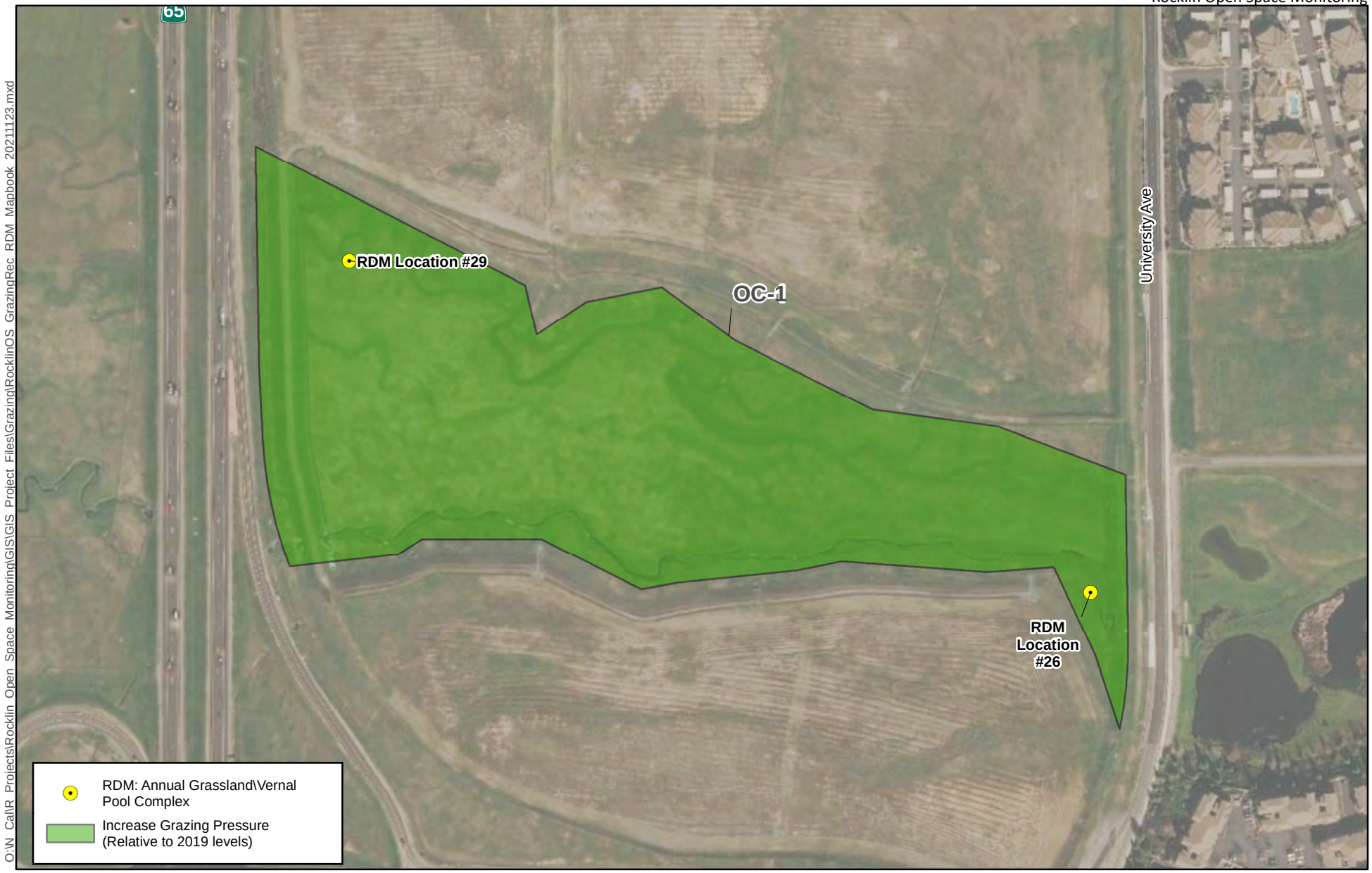
O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Claremont Grazing Pressure Recommendations

Figure 8-A



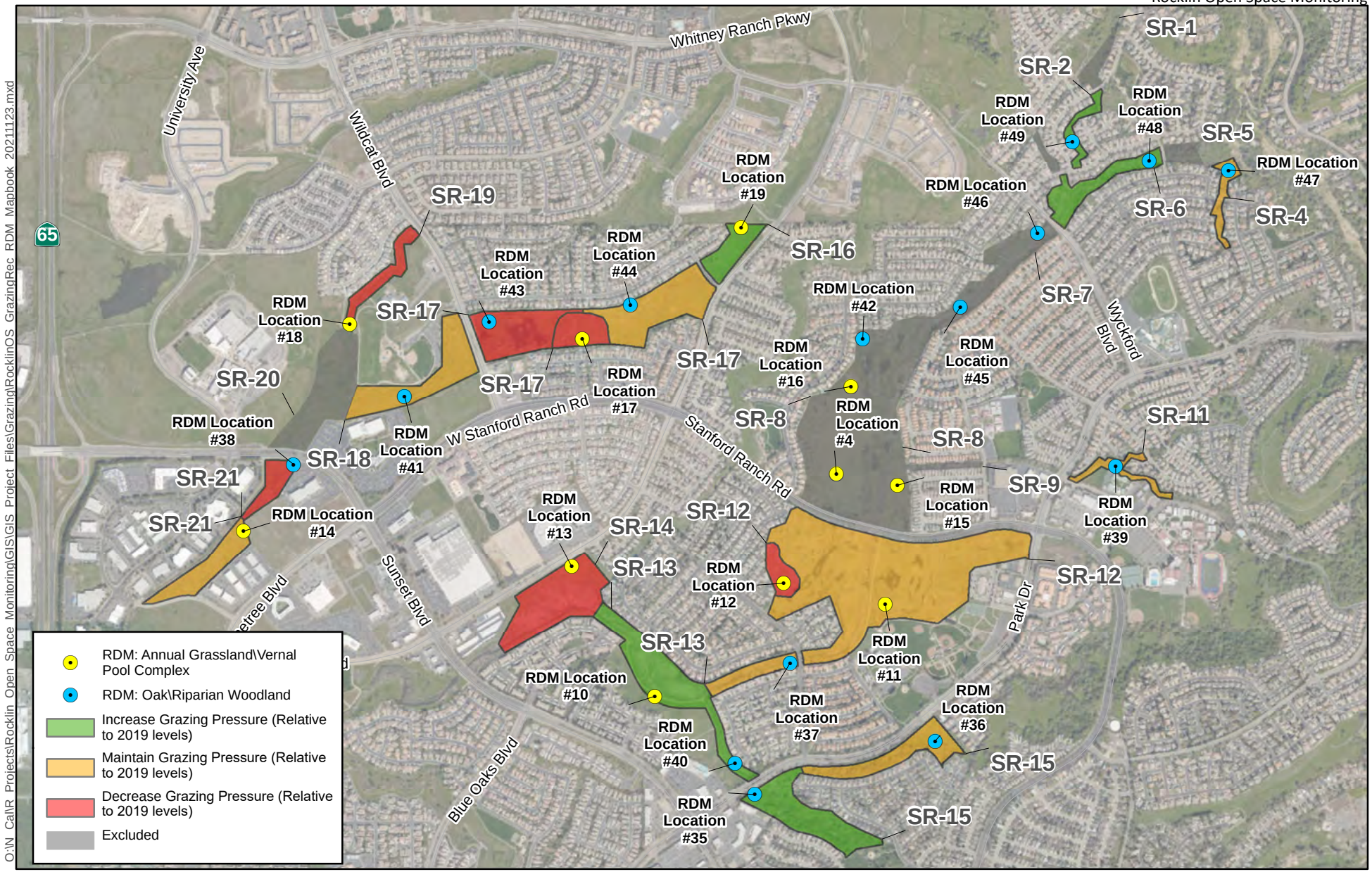
O:\N CalIR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Orchard Creek Grazing Pressure Recommendations

Figure 8-B



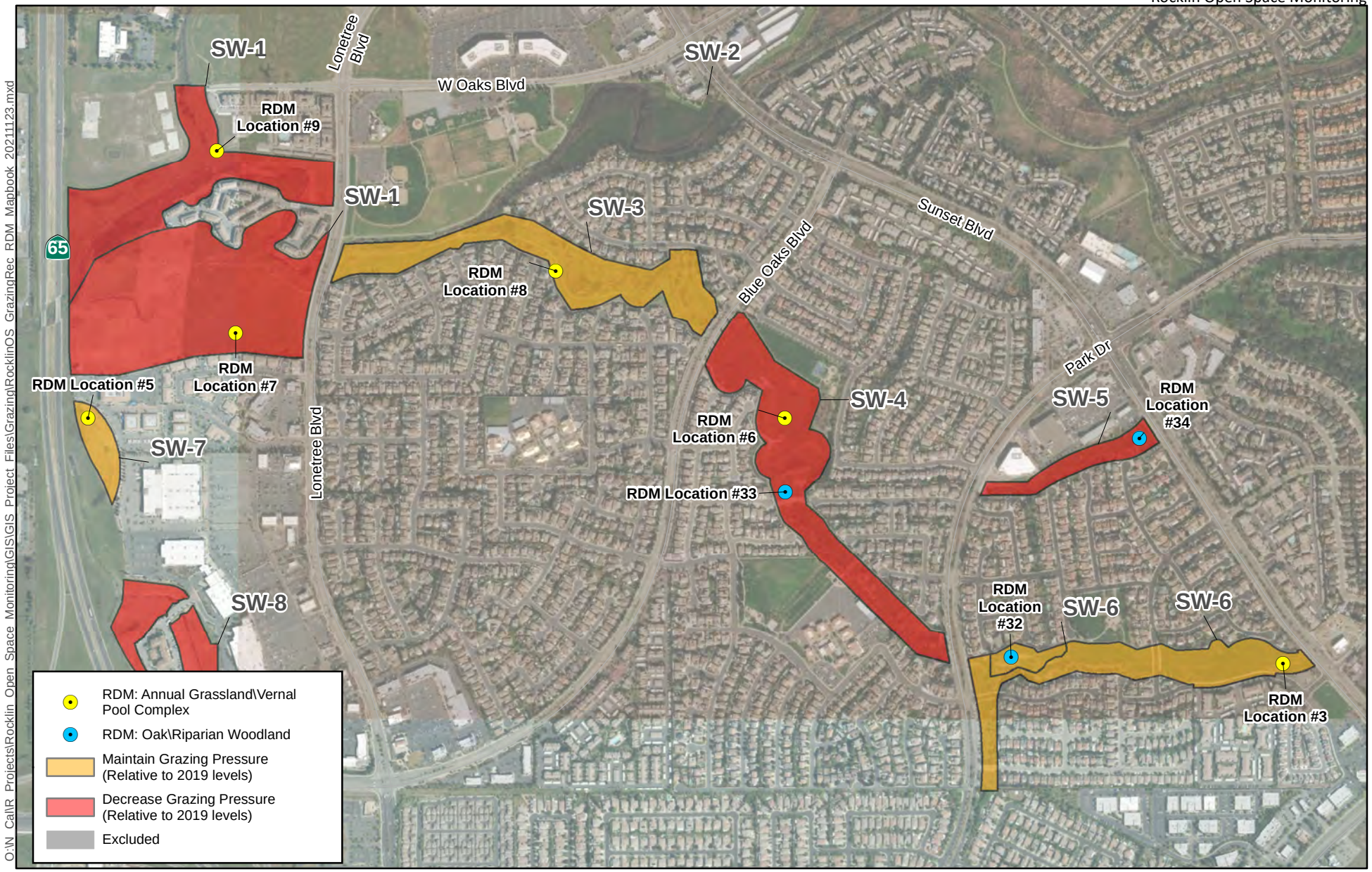
O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Stanford Ranch Grazing Pressure Recommendations

Figure 8-C



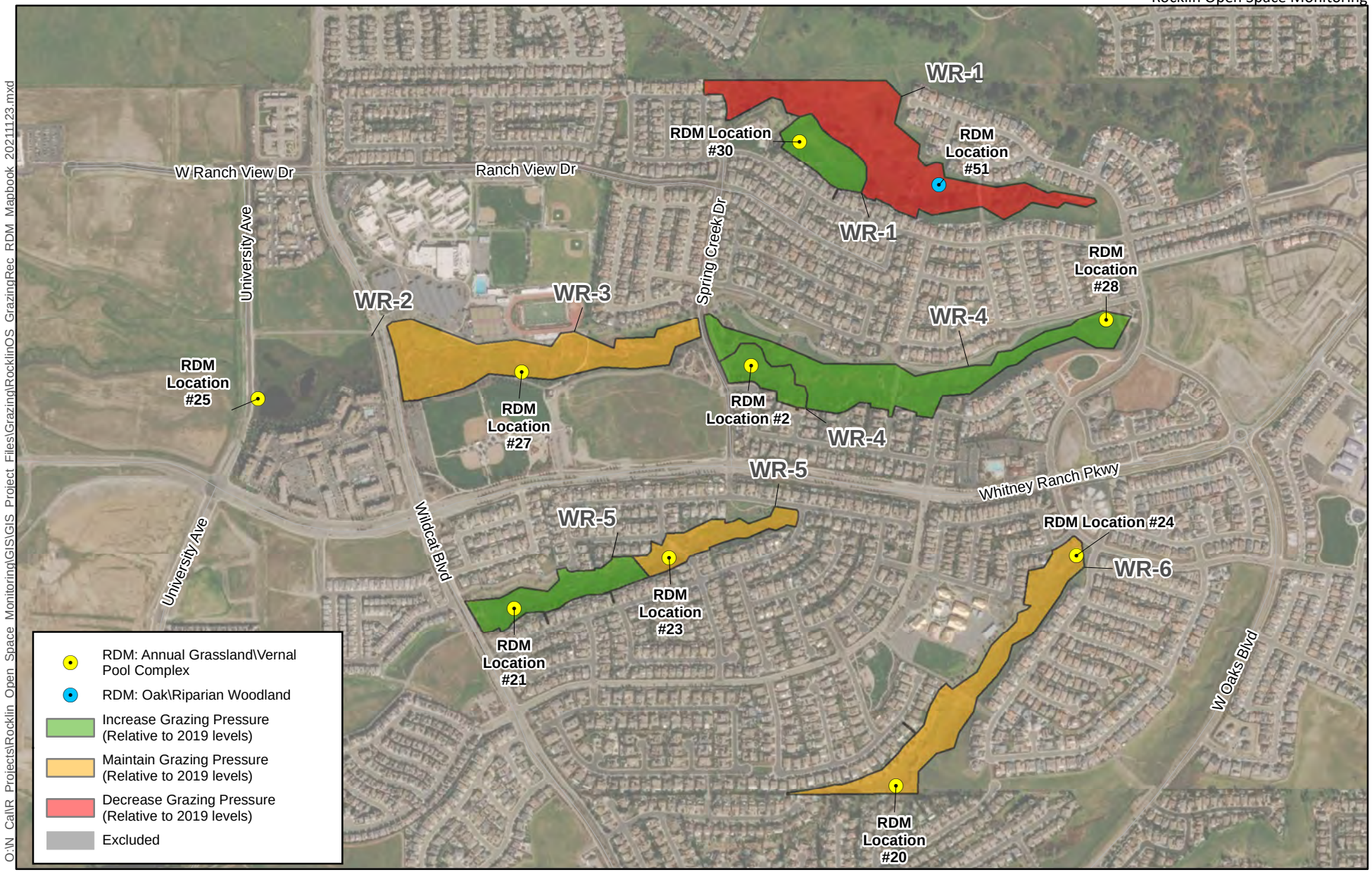
O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Sunset West Grazing Pressure Recommendations

Figure 8-D



O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Whitney Ranch Grazing Pressure Recommendations

Figure 8-E

O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Brighton Grazing Pressure Recommendations

Figure 8-F

O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Garnet Creek Grazing Pressure Recommendations

Figure 8-G

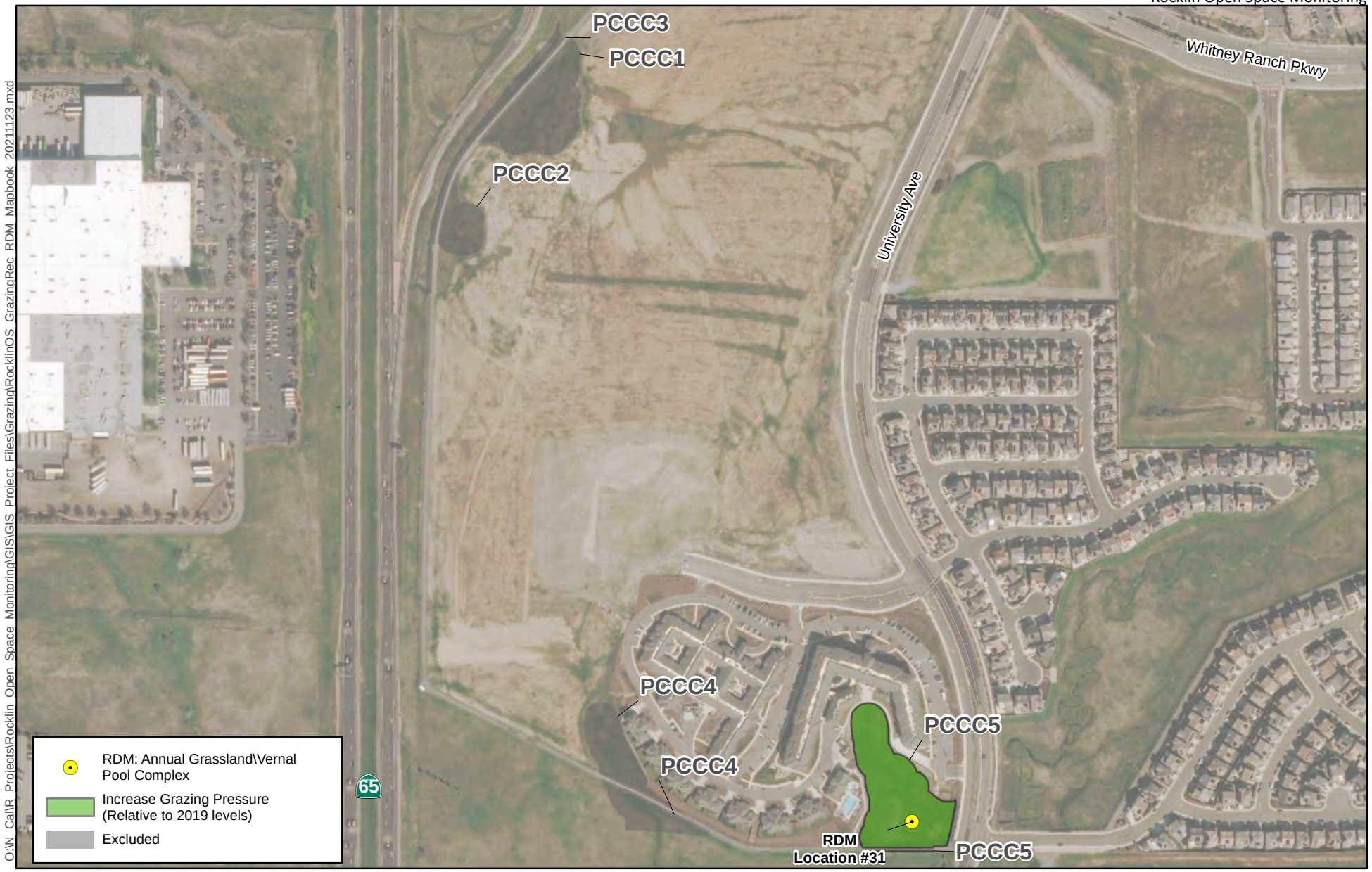
O:\N CalR Projects\Rocklin Open Space Monitoring\GIS\GIS Project Files\Grazing\RocklinOS GrazingRec RDM Mapbook 20211123.mxd

Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Parklands North Grazing Pressure Recommendations

Figure 8-H



Source: Aerial Imagery (DigitalGlobe, 3/4/2021)

HELIX Environmental Planning

Placer Creek Corporate Center Grazing Pressure Recommendations

Figure 8-I

2.10 ROUTINE MAINTENANCE WITHIN AND ALONG PORTIONS OF PLEASANT GROVE CREEK

The three Preserve subsections Sunset West (SW 1-3) contain several drainages, seasonal wetlands, wetland swales, vernal pools, Pleasant Grove Creek, and annual grassland habitats containing willows (*Salix* sp.), cattails (*Typha* sp.), and the highly invasive water hyacinth (*Eichhornia crassipes*). Numerous beaver dams and additional beaver activity had obstructed flow and caused extensive wetlands to form along portions of the Creek. Water hyacinth had caused large vegetation matting and further constricted flows. Representative photos of these areas are located in Attachment J.

The Preserve subsections along Pleasant Grove Creek implemented maintenance activities in 2021 in part to address these issues as the flow of water within Pleasant Grove Creek was being substantially obstructed. Beaver activity had caused wetlands to form along portions of the creek, with one area particular concern being located adjacent to Highway 65 between the border of Rocklin and the City of Roseville. If the wetland had continued to expand it is may have caused water to flow onto Highway 65 potentially causing hazardous conditions for motorists.

Prior to the commencement of maintenance activities, a HELIX biologist that was CDFW-approved for this project surveyed potential suitable habitat for special-status species identified in the Routine Maintenance Agreement (RMA) that was prepared and submitted to CDFW for these activities and the HELIX biologist provided oversight during routine maintenance activities conducted between October 7 and 18, 2021.

3.0 ANNUAL MONITORING RESULTS

3.1 VERNAL POOL MONITORING AND WESTERN SPADEFOOT TOAD SURVEYS

The individual Preserves subsections were surveyed on March 1 and 19 and April 27, 2021. A total of 66 pools were surveyed within portions of Orchard Creek, Placer Creek Corporate Center, Stanford Ranch, and Sunset West. Due to the abnormally low rainfall this winter, many vernal pools were either dry or lacked adequate inundation for the persistence of vernal pool invertebrates at the time of the surveys.

Of the 66 vernal pools surveyed during the 2021 monitoring season, only two vernal pools (#30 in SR-8 and #176 in SR-12) were ever inundated enough to survey in 2021. Historically, since 2015 surveys have been conducted between December and March, as pools are typically inundated, and invertebrates have hatched. Weather data indicates the average precipitation for Rocklin in December is 4.2 inches, 4.3 inches in January, 4.6 in February, and 3.5 inches in March (Weather Spark 2021). According to rainfall data provided by Climate Data and Summary Reports from AgACIS, Rocklin received 1.59 inches of rain in December 2020, 3.82 inches in January, 1.59 inches in February, and 2.0 inches in March 2021. Although Rocklin received precipitation from December 2020 through March 2021, climatology data indicated that rainfall was widely spread and sparse. Due to the low rainfall this winter and spring, many vernal pools were either dry or lacked adequate inundation for the persistence of vernal pool invertebrates at the time of the surveys. Included as Attachment K are climatological data for Rocklin 2.5 W, CA (CoCoRaHS) for March and April, which represents the two months that surveys were conducted within the Preserve during the 2021 monitoring season.

During the March 1 and 19, 2021 survey, only two vernal pools (#30 located in SR-8 and #176 located in SR-12) were inundated with water; remaining 64 vernal pools were dry. On April 27, 2021, vernal pools were again surveyed following a rain event the day prior and although soil was moist, vernal pools did not contain standing water and lacked adequate inundation to dip net.

During the 2021 season surveys, no listed federally threatened vernal pool fairy shrimp or non-listed California linderiella were observed. Additionally, no western spadefoot toads were observed. Other non-listed invertebrates observed within the pools during the surveys include water fleas (Cladocera), copepods (Copepoda), seed shrimp (Ostracoda), flatworms (Turbellaria), diving water beetles (Dytiscidae), crawling water beetles (Haliplidae), midge (Chironomidae), dragonfly larvae (Anisoptera), water mites (Hydrachnidae), mosquito larvae (Culicidae), flies (Diptera), silverfish (Lepismatidae), snails (Gastropoda), spiders (Araneae), and backswimmers (Notonectidae). Field sampling data sheets are included in Attachment A.

3.2 VERNAL POOL FLORISTIC MONITORING

Floristic monitoring was conducted on April 22, 26-28, May 5, 6, and 10, and June 18, 2021. Of the 66 pools surveyed within the Preserves, 42 pools have a Prevalence Index of 3 or less. Therefore, 64% of the pools meet the performance standards, a decrease of 34% from the previous year. This likely due to the abnormally low rainfall this winter and spring as discussed in Section 3.1. Vernal pool floristic data sheets are included in Attachment B.

3.2.1 Orchard Creek

Floristic monitoring was conducted on April 28, 2021, within Orchard Creek. Dominant plant species observed in the sampled vernal pools within Orchard Creek Preserve include medusahead (*Elymus caput*-medusae), coyote thistle (*Eryngium vaseyi*), Italian rye grass (*Festuca perennis*), and vetch (*Vicia sp.*). Of the five pools sampled on Orchard Creek, none 0% met the floristics performance standard. Vernal pools within Orchard Creek were dominated by medusahead and Italian rye grass in 2021, which affected the Prevalence index scores. In previous years (2015-2020), vernal pools in Orchard Creek have met floristic standards between 75-100% of the time. The reduction in number of sampled pools meeting the success criteria in 2021 can likely be attributed to the abnormally low rainfall this winter; many vernal pools were either dry or lacked adequate moisture for the persistence of vernal pool flora at the time of the surveys.

3.2.2 Placer Creek Corporate Center

Floristic monitoring was conducted on April 28, 2021, within Placer Creek Corporate Center. Dominant plant species observed in the sampled vernal pools within Placer Creek Corporate Center in 2021 include coyote thistle, Italian rye grass, smooth goldfields (*Lasthenia glaberrima*), woolly marbles (*Psilocarphus brevissimus*), and soft brome (*Bromus hordeaceus*). Of the three vernal pools surveyed within Placer Creek Corporate Center, one (VP-311) met the floristics performance standard 33%. In previous years (2018-2020), vernal pools in Placer Creek Corporate Center have met floristic standards 100% of the time. The reduction in number of sampled pools meeting the success criteria in 2021 can likely be attributed to the abnormally low rainfall this winter and spring; many vernal pools were either dry or lacked adequate moisture for the persistence of vernal pool flora at the time of the surveys.

3.2.3 Stanford Ranch

Floristic monitoring was conducted on April 27, May 5, 6 and 10, and July 18, 2021, within Stanford Ranch. Dominant vernal pools plant species observed in the sampled pools within Stanford Ranch in 2021 include woolly marbles, white-headed navarretia (*Navarretia leucocephala*), common spikerush (*Eleocharis macrostachya*), hyssop loosestrife (*Lythrum hyssopifolia*), stalked popcornflower (*Plagiobothrys stipitatus*), Italian rye grass, Fremont's goldfields (*Lasthenia fremontii*), and Douglas' pogogyne (*Pogogyne douglasii*). Of the thirty-one pools surveyed on Stanford Ranch in 2021, twenty-seven 87% met the floristic performance standards. Vernal pools that did not meet the standard included VP-164, VP-272, and VP-285 which were dominated by foxtail barley (*Hordeum marinum*), and VP-289 which was dominated by hawkbit (*Leontodon saxatilis*). In previous years (2015-2020), vernal pools in Placer Stanford Ranch have met floristic standards between 90% to 93% of the time. The reduction in number of sampled pools meeting the success criteria in 2021 can likely be attributed to the abnormally low rainfall this winter; many vernal pools were either dry or lacked adequate moisture for the persistence of vernal pool flora at the time of the surveys.

3.2.4 Sunset West

Floristic monitoring was conducted on April 22 and 26-28, 2021 within Sunset West. Dominant plant species observed in the sampled pools within Sunset West in 2021 include common spike rush, white-headed navarretia, stalked popcornflower, and Fremont's goldfields. Of the twenty-seven pools surveyed on Stanford Ranch; fourteen or 52% met the floristic performance standards. Vernal pools that did not meet the standards included VP-074, VP-076, VP-100, VP-109, VP-115, and VP 264 which were dominated by foxtail barley and medusahead, and VP -207, VP-209, VP-214, VP-224, VP-231, VP-235, VP-236, and VP-241 which were dominated by hawkbit and filaree (*Erodium* sp.). In previous years (2015-2020), vernal pools in Sunset West have met floristic standards between 83% to 100% of the time. The reduction number of pools meeting the success criteria in 2021 can likely be attributed to the abnormally low rainfall this winter and spring; many vernal pools were either dry or lacked adequate moisture for the persistence of vernal pool flora at the time of the surveys.

3.3 SPECIAL-STATUS PLANT SURVEY

Special-status plant surveys were conducted in tandem with other annual surveys to target optimal bloom/identification periods. Vernal pools species were surveyed for on April 22, 26-28, May 5, 6, and 10, and June 18, 2021, and in tandem with floristic motoring. Wetland's species were surveyed for during the wetland and riparian motoring conducted on May 12 and 16, July 27-30, and August 13, 2021. The following special-status plant species have the potential to occur within the Preserve: Ahart's dwarf rush, big-scale balsamroot, Boggs Lake hedge-hyssop, Brandegee's clarkia, dwarf downingia, hispid bird's-beak, legenere, pincushion navarretia, Red Bluff dwarf rush, Sacramento Orcutt grass, Sanford's arrowhead, stinkbells and valley brodiaea (Attachment F).

Ahart's Dwarf Rush

Ahart's dwarf rush, a CNPS ranked 1B.2 species, (rare, threatened, or endangered in CA and elsewhere), is an annual grass-like herb in the rush family (Juncaceae). This species occurs in wetlands including vernal pools and valley and foothill grassland habitats. This species typically blooms from March through May (CNPS 2021). This species is threatened primarily by development. The Preserve may provide suitable habitat for this species within the vernal pool habitat within Orchard Creek (OC-1), Placer Creek

Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR-8 and 12), and Sunset West (SW 1-6 and 8) Preserve subsections. Surveys to date have been conducted for this species between 2015-2021, and the species has not been observed within the Preserve. However, the existing or future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (see Attachment D) for this species within five miles of the Preserve (CDFW 2021).

Big-Scale Balsamroot

Big-scale balsamroot, a CNPS ranked 1B.2 species, is a perennial herb in the sunflower family (Asteraceae) that grows from a fleshy taproot and is found in cismontane woodland and valley and foothill grassland, sometimes on serpentine soils. The yellow disk flowers bloom from March through June (CNPS 2021). This species is threatened by grazing, residential or recreational development, and encroachment of non-native plants. The Preserve contains suitable grassland and woodland habitat for this species throughout subsections of the Preserve. Surveys have been conducted for this species between 2015-2021, to date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.

There are two CNDDB records (see Attachment D) for this species within five miles of the Preserve (CDFW 2021).

Boggs Lake Hedge-Hyssop

Boggs Lake hedge-hyssop is listed as endangered under CESA and is a CNPS rank 1B.2 species. Boggs Lake hedge-hyssop is a semi-aquatic annual herb of the figwort family (Scrophulariaceae). This species grows in marshes, swamps, lake margins, and vernal pools with clay soils. This species blooms from April to June (CNPS 2021) while the vernal pools are still inundated with less than 5 centimeters (2 inches) of water. This species produces small, white, and pale-yellow flowers (Calflora 2020). Potential habitat for this species exists within the vernal pool habitat within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), and Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are three CNDDB records (see Attachment D) for this species within five miles of the Preserve (CDFW 2021).

Brandegee's Clarkia

Brandegee's clarkia, a CNPS ranked 4.2 species, (Limited distribution in California), is an annual herb in the evening primrose family (Onagraceae). Brandegee's clarkia is typically found in chaparral and cismontane woodlands, frequently associated with roadcuts and other clearings. This species usually flowers from May through July (CNPS 2021). Suitable habitat is present within oak woodland within portions of Brighton, Claremont, Garnet Creek, Stanford Ranch, Sunset West, and Whitney Ranch Preserve subsections. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (see Attachment D) for this species within five miles of the Preserve (CDFW 2021).

Dwarf Downingia

Dwarf downingia, a CNPS ranked 2B.2 species, is an annual herb in the bellflower family (Campanulaceae). Dwarf downingia is restricted to vernal pools and similar seasonal wetlands, including mesic grassland and the margins of small lakes or stock ponds. Seeds germinate in the standing water of the vernal pools. The plants grow to near full size while the pools are still inundated and bloom from March to May (CNPS 2021). The vernal pools located throughout the Preserve within Orchard Creek, Placer Creek Corporate Center, Stanford Ranch, and Sunset West Preserve subsections may provide suitable habitat for this species. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are sixteen CNDDB records (see Attachment D) documented within five miles of the Preserve (CDFW 2021).

Legenere

Legenere, a CNPS ranked 1B.1 species, is an annual herb in the bellflower family (Campanulaceae). Endemic to northern California in the Coast and Cascade ranges and the Central Valley, legenere is an inconspicuous annual herb that blooms from April to June (CNPS 2021). It is found in vernal pools and swales, seasonal marshes, artificial ponds, floodplains of intermittent streams, and other seasonally inundated habitats. Wetlands that support legenere are typically inundated for long periods and range in size from slightly more than 3.7 square meters (40 square feet) to 40 hectares (100 acres) (Calflora 2021). The vernal pools and swales, seasonal marshes, artificial ponds, floodplains of intermittent streams, and other seasonally inundated habitats located throughout the Preserve may provide suitable habitat for this species. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Pincushion Navarretia

Pincushion navarretia, a CNPS ranked 1B.1 species, is an annual herb in the phlox family (Polemoniaceae). It is endemic to vernal pools along California's Central Valley, especially the east side. This species has tiny whitish flowers usually in single heads. This species blooms from April to May (CNPS 2021). Suitable habitat may be present within the Preserve within the vernal pools and swales located throughout the Preserve Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Red Bluff Dwarf Rush

Red Bluff dwarf rush, a CNPS ranked 1B.1 species, is an annual herb in the rush family (Juncaceae). The typical bloom period is from March to May. Red Bluff dwarf rush is endemic to northern California, where it occurs in Butte, Placer, Shasta, and Tehama counties. It is found in in vernally moist chaparral, cismontane woodlands, meadows and seeps, valley and foothill grasslands, and vernal pools. Only one population of Red Bluff dwarf rush, located near Roseville, is known to occur in Placer County. The population was last seen in 1982; however, a habitat survey conducted in 1997 indicates that the habitat for this species is still present (CNPS 2021). Because of extensive recent development that has occurred in and around Roseville, this population may have been eliminated from Placer County (Calflora 2021). Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There is one CNDDB record (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Sacramento Orcutt Grass

Sacramento Orcutt grass is listed as federally and state endangered and is a CNPS ranked 1B.1 species. Sacramento Orcutt grass is a small annual plant of the grass family (Poaceae). This species blooms from April to July (CNPS 2021). Although there are no CNDDB records of this species within 5 miles of the Preserve, some of the deeper vernal pools located throughout the Preserve may provide suitable habitat for this species. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Sanford's Arrowhead

Sanford's arrowhead, a CNPS ranked 1B.2 species, is an emergent perennial rhizomatous herb in the water plantain family (Alismataceae). This species is found in assorted shallow freshwater marshes and swamps, artificial ponds, and lakes. This species blooms from May to October, sometimes into November (CNPS 2021). Although there are no CNDDB records of this species within five miles of the Preserve, wetlands within portions of Brighton, Claremont, Garnet Creek, Orchard Creek, Parklands North, Stanford Ranch, Sunset West, and Whitney Ranch Preserve subsections may provide habitat for this species. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Stinkbells

Stinkbells, a CNPS ranked 4.2 species, is a perennial bulbiferous herb in the lily family (Liliaceae). This species is found in clay soils, sometimes in serpentinite soil in moist annual grasslands. Flowers are white with greenish to pinkish markings on the outer surface and purple-brown on the inner surface.

The flowers have an unpleasant odor, hence its name. The typical bloom period is March through June (CNPS 2021). Although there are no CNDDB records of this species within 5 miles of the Preserve, a collection was made on February 25, 2010 (CHSC105853) from Johnson Springview Park, 1/4 mile from the park entrance and just north of Farron Street Bridge, close to Antelope Creek. The annual grassland found throughout the Preserve provides suitable habitat for this species, and the noted record confirms it occurs in the vicinity of the Preserve. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

Valley Brodiaea

Valley brodiaea, a CNPS ranked 4.2 species, is a perennial bulbiferous herb in the Themidaceae family that grows from a corm producing upright purple flowers. It is typically found in old alluvial terraces; with silty, sand, and gravelly loam soils. Valley brodiaea usually blooms from April to May or sometimes into June (CNPS 2021). Although there are no CNDDB occurrences within five miles of the Preserve, there is one record of this species in the UC Davis Consortium of California Herbaria (ID # UCD147856). The location of the sample collected on April 15, 2013, is between Roseville and Lincoln, 200 feet east of Interstate 65 and 0.7 mile north of Sunset Blvd. The annual grassland and vernal pool margins located throughout the Preserve may provide suitable habitat for this species. Surveys have been conducted for this species between 2015-2021 and, to date, the species has not been observed. However, future appended Preserve subsections may contain potential habitat for this species.

There are no CNDDB records (Attachment D) documented within five miles of the Preserve (CDFW 2021).

3.4 WETLAND AND RIPARIAN MONITORING

Riparian habitats are distinctly different from surrounding habitats because of the unique soil and vegetation characteristics strongly influenced by water, rivers, streams, ponds, and numerous types of drainages. These unique areas are regulated under the California Fish and Game Code (California Fish and Game Code § 1600 et seq., Streambed Alteration Agreement). Riparian vegetation provides valuable aquatic food web services (inputs for nutrient cycling and food availability) to adjacent aquatic ecosystems. As such, many riparian areas in California are also considered special-status natural communities.

Monitoring of wetland and riparian areas was conducted on May 12 and 16, July 27-30, and August 13, 2021, and in tandem with other annual motoring tasks. Wetland and riparian areas were examined, to evaluate existing conditions and determine areas with restoration potential. Overall, the wetlands and riparian areas are in good condition throughout the Preserve, although drought conditions persisted through 2021 and as a result many seasonal aquatic resources were observed to be dry in mid-spring to early summer. Problematic areas were identified and mapped to address various issues including erosion, beaver activity, impacted culverts, invasive plant species, trash accumulation, and other disturbances within wetland and riparian areas (see Figures 5 A-C).

3.4.1 Brighton

Wetland and riparian habitat within the Brighton Preserve subsection was assessed on July 27, 2021, and in tandem with other annual surveys. Drainages within the Preserve subsection flow in a northeast to southwest direction and all culverts were relatively clear of vegetation and debris. The riparian community was relatively overgrown and harbors large patches of Himalayan blackberry. No beaver activity was observed. There is a 6-barrel culverted crossing on Sucker Ravine, along Dominguez Road, that has T-post trash racks bolted immediately to the inlet area. These posts are covering the culvert inlets and will require continued monitoring to ensure that flow is not impeded as material accumulates over time, especially after significant storm events. A medium-density of accumulated trash was observed around the culvert outlet along Sweeney Circle.

3.4.2 Claremont

Wetland and riparian habitat within the Claremont Preserve subsection was assessed on August 13, 2021, and in tandem with other annual surveys. The pond within C-1 was nearly empty at the time of inspection and all other features were dry. All culverts, wetland swales, and ditches were clear of problematic vegetation and debris. No beaver activity, erosion, or sedimentation was observed. The main issue with this subsection is that it is easily accessible to the public, which has resulted in excessive trash accumulating around the pond in C-1. Additionally, there is a rope swing that tied onto a tree along the C-1 pond margin.

3.4.3 Garnet Creek

Wetland and riparian habitat within the Garnet Creek Preserve subsection was assessed on July 27, 2021, and in tandem with other annual surveys. Drainages within the Preserve subsection flow east to west and all culverts were clear of vegetation and debris at the time of assessment. The riparian community was relatively overgrown and harbors large populations of Himalayan blackberry. No beaver activity was observed.

An erosion site was observed within the northern ephemeral drainage that was previously treated. At this site, two gabion baskets were installed along the drainage to armor the eroding left bank in efforts to prevent undercutting of an existing, paved walking trail. The upstream gabion basket is failing and being undercut. A fence post along the upstream gabion basket was sealed in with concrete but is now leaning towards the creek. The left bank along the drainage also serves as the fill slope for the paved trail and is nearly vertical. Presently, the ephemeral drainage generally lacks adequate capacity for storm flows and is incising, causing failure of the left bank.

Upstream of the gabion basket site, there is some downed wood in the channel that is racking debris and aggrading sediment. This feature could result in bank scour and channel incision/headcutting if left untreated. Monitoring of this area is recommended and treatment may be necessary if conditions worsen. Additionally, downstream of the gabion basket site, erosion of Sucker Ravine's left bank was observed but does not appear to be an eminent threat to the creek or adjacent development.

Garbage was observed throughout Sucker Ravine from the neighboring apartment complex, although the only significant item was a garden hose.

3.4.4 Orchard Creek

Wetland habitat within the Orchard Creek Preserve subsection was assessed on May 12, 2021, and in tandem with other annual surveys. Standing water was observed in the western portion of stream with low flows during the site assessment. The eastern portion of stream was mostly dry with few standing pools. Some erosion from the top of the paved trail to the stream channel has formed on the southern side of the paved trail. Culverts were clear of debris but have high densities of invasive weeds in/near the rip rap.

3.4.5 Parklands North

Riparian and wetland habitat within the Parklands North Preserve subsection was assessed on May 16, 2021, and in tandem with other annual surveys. The perennial stream (Antelope Creek) flows in a northeast to southwest direction. Some sediment has accumulated near the lower end of the creek and along portions of the bank. No action is required as this level of sedimentation is typical of stream systems in the region. Culverts were clear of debris but have high densities of Himalayan blackberry.

3.4.6 Placer Creek Corporate Center

Wetland habitat within the Placer Creek Preserve subsection was assessed on July 30, 2021, and in tandem with other annual surveys. Culverts were clear of debris however light trash was observed throughout the Preserve.

3.4.7 Stanford Ranch

Wetland and riparian habitat within the SR Preserve subsection was assessed on multiple days in mid-August to early-September 2021, and in tandem with other annual surveys. The Stanford Ranch Preserve has complex aquatic resources throughout and is associated with Pleasant Grove Creek and its tributaries, as well as isolated aquatic features. In general, this subsection was observed to have excessive grazing within aquatic resources, extensive populations of invasive plant species, and light trash throughout.

Beaver activity was observed in Stanford Ranch (SR-12) backing up Pleasant Grove Creek and Stanford Ranch (SR-21). Dam removal and beaver trapping/relocation activities were conducted in SR-12 in October 2021 to abate potential flooding. In Stanford Ranch (SR-21), flooding from beaver dams may occur causing negative impacts which may require consideration of dam removal depending on results of future monitoring.

Several issues were identified within SR-15, including a damaged culvert, relic tree forts, and rope swings. The damaged culvert is located in the southwestern portion of the preserve, adjacent to Pebble Creek Park, has a freefall outlet and is completely corroded. Flow emerges from underneath the culvert and is undermining the pipe. The stream channel downstream of the culvert outlet is steep, incised down to bedrock, and has eroding banks. Additionally, the channel throughout the preserve is laden with garbage, tree forts, and rope swings.

3.4.8 Sunset West

Wetland and riparian habitat within the SW Preserve subsection was assessed on multiple days between late-July to early-September 2021, and in tandem with other annual surveys. Sunset West Preserve has complex aquatic resources throughout which are associated with Pleasant Grove Creek and its tributaries, as well as isolated aquatic features. In general, this subsection was observed to have excessive grazing within aquatic resources, extensive populations of invasive plant species, and light trash throughout. Several disturbances to aquatic resources and riparian areas were observed within the Sunset West Preserve that are associated with urban/preserve interface.

Near the end of West Oaks Boulevard, riparian trees were observed to have been removed along a tributary to Pleasant Grove Creek in SW-1. ATV tire ruts were observed within the tributary adjacent to the area where riparian trees appear to have been removed.

Additional disturbances were observed in SW-3, which include felling of riparian trees, a hand-dug diversion channel at a culverted crossing, and a makeshift tree fort. Multiple willows were felled via chainsaw near a residential fence line, between Princess Court and Camelia Circle. Adjacent to Osprey Court, a culvert was plugged with cobble and a diversion channel was excavated upstream, by hand, to impound water in a small area. The makeshift tree fort appears to have been removed in the past, but boards and other trash remain in the drainage.

During monitoring efforts in SW-4, multiple erosion sites and plugged culverts were identified. In the northern portion of the Preserve there is an armored outfall for a stormwater culvert that is failing. Water now flows underneath the concrete apron at this site and is being undermined. Subsequently, earthen material will continue to erode and be delivered to surface waters downslope. Another erosion site was observed near the basketball courts, where irrigation runoff from the adjacent park is causing rills on the hillslope that discharges into aquatic resources. The culverted crossing between Sculpin Court and Big Sky Drive has woody debris accumulation at the inlet area that will continue to rack material and cause backwatering. Adjacent to the previously mentioned culvert, there is a stormwater drain by Sculpin Court that has been blocked by a large rock lodged inside. Additionally, the culvert near the end of Two Towers Way has woody debris accumulation at the culvert inlet that needs to be cleared.

SW-5 was observed to have significant amounts of trash accumulation. Near the end of Amber Falls Drive, garbage from the neighboring community has been discarded adjacent to the riparian corridor. Shopping carts and other trash were observed throughout the drainage.

Some minor erosion sites were observed within SW-6, although they do not currently require remediation. In the northwest corner of the Preserve, there are two erosion sites within the intermittent drainage that are related to headcuts and channel incising. Upstream of the culvert inlet on Little Rock Road, which has vegetation buildup in the trash rack, there is a poorly armored headcut that will continue to migrate upstream over time. Headcut migration at these erosion sites will be slow but could be accelerated by significant storm flows.

In SW-7, ATV tire ruts were observed within a seasonal wetland feature downslope of the Rocklin Academy. The only other issues observed in SW-7 were related to trash from Highway 65 and aggressive invasive plant species, specifically yellow star-thistle.

SW-8 had similar trash issues due to its proximity to Highway 65, as well as shopping carts in the creek southeast of the Staybridge Suites.

3.4.9 Whitney Ranch

Riparian and wetland habitat within the Whitney Ranch Preserve subsection was assessed on July 28 and 29, 2021 and in tandem with other annual surveys. High avian usage was observed within the intermittent stream and perennial pond within WR-1. Culverts were observed to be clear of debris, however light trash was observed throughout the Preserve.

3.5 BIOLOGICAL SURVEYS

Preserve conditions and species observations were noted concurrently during the invertebrate, floristic, RDM, wetland and riparian monitoring, special-status species surveys, and invasive species mapping during 2021. Overall, the Preserve continues to maintain its ecological value as habitat for both listed and non-listed species. Wildlife species observed during 2021 monitoring are included in Attachment G.

3.6 HISPID SALTY BIRD'S-BEAK SURVEY

Verification of the hispid bird's-beak populations located on the saline/alkali soils within Stanford Ranch (SR-12) took place on July 1, 2021. The extent of the population is consistent with the 2020 survey, with additional new growth of this species along the eastern boundary of one of the drainages transecting SR-12 in a north-south direction. Population clusters range from approximately 2 to 200 plants. Grazing pressure within SR-12 met and/or exceeded the targets outlined in the GOSMP. Although vegetation utilization was heavy in the western portion of the Preserve subsection, hispid bird's-beak populations were not adversely impacted. Vegetation composition surrounding the populations is consistent with previous years (2015-2021) and is dominated by saltgrass (*Distichlis spicata*), yellow glandweed (*Parentucellia viscosa*), cattails (*Typha* sp.), and common lippia (*Phyla nodiflora*).

3.7 TRICOLORED BLACKBIRD SURVEY

Tricolored blackbird is listed as a bird of conservation concern via USFWS BCR 32. This species had been observed nesting in Whitney Ranch (WR-1) and foraging in Orchard Creek (OC-1) and Whitney Ranch (WR-2) (HELIX 2020). Tricolored blackbird is a colonial species that typically breeds in freshwater marshes of cattail (*Typh*a sp.), bulrush (*Schoenoplectiella* sp. and *Isolepis* sp.), sedge (*Carex* sp.), and non-native vegetation including Himalayan blackberry (*Rubus armeniacus*). Nests occur in large colonies of up to thousands of individuals (NatureServe 2020). Nesting locations must be large enough to support a minimum colony of approximately fifty pairs (Zeiner et al. 1990). This species forages in grasslands and agricultural fields with low-growing vegetation (Shuford and Gardladi 2008). There are ten documented CNDDB occurrences within five miles of the Preserve (CDFW 2021).

During the breeding season of 2021 (April through August), nesting habitat was visited to determine the presence or absence of tricolored blackbird colonies. No tricolored blackbirds were observed nesting within the Preserve in 2021. However, foraging was observed in Orchard Creek in May 2021.

3.8 INVASIVE PLANT SURVEY

In total, approximately 50 acres within the Preserve were mapped with some amount of invasive species present during the invasives plant survey conducted on August 9-13 and 16 and July 29 and 30, 2021, which accounts for an approximate 23-acre reduction from the 2020 survey. The most notable decreases in invasive species were observed with a reduction of yellow star-thistle (*Centaurea*

solstitialis). This is due to the City's invasive removal efforts, including implementing grazing before seed set for many of the invasive plants in the Preserve. Although the population has been reduced, the most widespread invasive species mapped within the Preserve continues to be yellow star-thistle, which was present in over 15 acres of Preserve and is found mostly in annual grassland areas. Himalayan blackberry (*Rubus armeniacus*) was present in over 12 acres of the Preserve, curly dock (*Rumex crispus*) which was present in over six acres and summer mustard (*Hirschfeldia incana*) was present in over five acres (Table 5).

Similar to the 2020 surveys, emphasis was placed on monitoring invasive species considered as high priority and invasive woody plants in the riparian corridors. High priority plants are those that are the most likely to quickly develop into monocultures, and/or which provide poor wildlife habitat. Invasive woody plants in the Preserve are most often found along the edges of riparian areas.

3.9 THATCH MONITORING

Approximately 60% of the vegetation communities in the Preserve footprint are composed of annual grassland, which is dominated by non-native annual grasses such as wild oat (*Avena fatua*), Italian ryegrass, barley soft brome, wild rye (*Elymus* sp.) and medusahead (*Elymus caput-medusae*). Other annual grassland plants within the Preserve included croton (*Croton* sp.), vetch (*Vicia* sp.), yellow star-thistle, and tarweed (*Holocarpha* sp.). Oak and riparian woodlands make up approximately 30% of the remaining vegetation communities in the Preserve and are dominated by a variety of native species including blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizeni*), with willows (*Salix* sp.) and Fremont cottonwoods (*Populus fremontii*) in riparian areas. The Claremont, Orchard Creek, Whitney Ranch, and Placer Creek Corporate Center Preserves consist primarily of annual grassland habitats. The Stanford Ranch and Sunset West Preserves contain both annual grassland and oak woodland habitats. The Parklands North, Garnet Creek, and Brighton Subdivision contain primarily oak woodland and riparian habitats.

Table 5
INVASIVE SPECIES OCCURRENCES

Species	Scientific Name	Cal-IPC Ranking	Approximate Acreage 2021	Approximate Acreage 2019-2020	Approximate Acreage 2018-2019	Approximate Acreage 2017-2018	Approximate Acreage 2016-2017
Black Mustard	*Brassica nigra*	Moderate	<0.1	1.11	1.15	<0.1	<0.1
Bull Thistle	*Cirsium vulgare*	Moderate	0.63	0.08	1	0.3	0.3
Italian Thistle	*Carduus pycnocephalus*	Moderate	1.26	1.45	3.5	1.1	0.5
Milk Thistle	*Silybum marianum*	Limited	0.8	1.5	1.2	0.3	0.5
Pampas Grass	*Cortaderia selloana* or *C. jubata*	High	<0.1	0.12	0.2	<0.1	<0.1
Water Hyacinth	*Eichhornia crassipes*	High	0.65	<0.1	3.0	<0.1	0.2
Yellow Star-thistle	*Centaurea solstitialis*	High	15.35	28.56	30.0	25.9	20.1
Black Locust	*Robinia pseudoacacia*	Limited	<0.1	<0.1	1.1	<0.1	<0.1
Callery Pear	*Pyrus calleryana*	Watchlist	0.13	0.41	2.5	0.95	1.2
Chinese Tallow	*Triadica sebifera*	Moderate	3.5	9.02	26.5	19.1	23.8
Common Fig/Edible Fig	*Ficus carica*	Moderate	1.2	1.20	3.2	2.6	2.9
Common Privet	*Ligustrum lucidum*	Limited	0.33	0.22	0.2	N/A	N/A
Eucalyptus	*Eucalyptus* sp.	Limited	N/A	N/A	0.11	<0.1	<0.1
Himalayan Blackberry	*Rubus armeniacus*	High	13.5	12.55	10.01	4.9	6.9
Tree of Heaven	*Ailanthus altissima*	Moderate	0.08	0.08	0.26	<0.1	0.1
*Bermuda Grass	*Cynodon dactylon*	Moderate	<0.1	N/A	<0.1	N/A	N/A
Bristly Ox-tongue	*Helminthotheca echioides*	Limited	2.7	2.25	4.9	0.23	<0.1
Curly Dock	*Rumex crispus*	Limited	4.12	6.20	0.9	0.2	0.2
*Italian Rye Grass	*Festuca perennis*	Moderate	N/A	N/A	0.01	N/A	N/A
Medusa Head Grass	*Elymus caput-medusae*	High	0.1	N/A	1.8	<0.1	<0.1
Rip Gut Brome	*Bromus diandrus*	Moderate	N/A	N/A	0.1	N/A	N/A
Rose Clover	*Trifolium hirtum*	Limited	2.64	0.34	0.1	<0.1	<0.1
Rush Skeletonweed	*Chondrilla juncea*	Moderate	1.5	0.69	0.7	N/A	N/A
*Soft Brome	*Bromus hordeaceus*	Limited	N/A	N/A	<0.1	N/A	N/A
Stinkwort	*Dittrichia graveolens*	Moderate	1.52	2.21	20.00	4.2	3.7
Summer Mustard	*Hirschfeldia incana*	Moderate	0.53	5.58	1.2	N/A	N/A

* Indicates dense populations of the grass species. Mapping of theses grasses typical does not take place as the population is distributed through the majority of the annual grasslands and is known to occur throughout the Preserve.

During the RDM sampling efforts 48 of the 55 RDM points were sampled on September 1-3 and 9, 2021. The 7 points excluded from the 2021 sampling effort were due to access restrictions, more specifically due to electric fencing surrounding actively grazing animals at the time of the survey. Access to these RDM points was limited and samples would not be representative as grazing animals may have had a chance to eat the thatch down. RDM results for 2021 are similar to last year with the exception of an approximate 10% increase in RDM locations meeting the RDM objective as compared to last year. Tables 6 and 7 below summarize the RDM data for each of the nine Preserve areas and detailed data is enclosed in Attachment H. Representative photographs are enclosed in Attachment I**.**

Table 6
SUMMARY OF RDM DATA IN ANNUAL GRASSLANDS

Preserve	Total RDM Points	RDM Range (lbs./acre)	Exceeds Objective >1,200 lbs./acre	Meets Objective 800-1,200 lbs./acre	Below Objective <800 lbs./acre
Claremont	1	864	—	100% (1)	—
Orchard Creek	2	3,360-4,224	100% (2)	—	—
Stanford Ranch	10	192-3,072	30% (3)	30% (3)	40% (4)
Sunset West	7	192-864	—	43% (3)	57% (4)
Whitney Ranch	8	672-2,496	50% (4)	50%(4)	—
Placer Creek	1	2,496	100% (1)	—	—
TOTAL	**29**	—	**10**	**11**	**8**

Table 7
SUMMARY OF RDM DATA IN OAK WOODLAND

Preserve	Total RDM Points	RDM Range (lbs./acre)	Exceeds Objective >1,200 lbs./acre	Meets Objective 400-1,200 lbs./acre	Below Objective <400 lbs./acre
Brighton	1	4,608	100% (1)	—	—
Claremont	1	1,344	100% (1)	—	—
Garnet Creek	2	2,496-2,784	100% (2)	—	—
Parklands North	1	5,376	100% (1)	—	—
Stanford Ranch	10	192-3,168	20% (2)	60% (6)	20% (2)
Sunset West	3	96-1,440	33% (1)	33% (1)	33% (1)
Whitney Ranch	1	288	—	—	100% (1)
TOTAL	**19**	**—**	**8**	**7**	**4**

3.10 ROUTINE MAINTENANCE WITHIN AND ALONG PORTIONS OF PLEASANT GROVE CREEK

Special-status species surveys were conducted on October 4 and 6, 2021 prior to the commencement of routine maintenance along Pleasant Grove Creek. Oversight was provided while crews were preforming work between October 7 and 18, 2021.

Accessing the creek to perform maintenance activities was conducted in a way to minimize erosion, preserve bank stability, and the number of cuts in non-problematic vegetation.

Maintenance activities conducted in October 2021 included the following:

- Dismantling of beaver dams;
- Trimming and removal of willows under 4 inches at diameter at breast height (DBH);
- Reduction of cattails; and
- Removal of water hyacinth.

A qualified biologist conducted an environmental awareness training for all construction personnel prior to the initiation of work. The training included identification of western pond turtle, tricolored blackbird, roosting bats, and elderberry shrubs as biological constraints that may be encountered during maintenance activities. Additional information included in the environmental awareness training included required practices to be implemented prior to and during maintenance activities, general measures that were required to conserve habitat for potentially occurring special-species as they relate to the project, penalties for non-compliance, and what to do/whom to contact should any special-status species be observed onsite during maintenance activities. Upon completion of the training, all construction personnel signed a form stating that they had attended the training and understood all the measures.

Western pond turtles were observed within a bend in Pleasant Grove Creek north of two residences located at 6220 and 6222 Camellia Circle. No maintenance activities occurred within 300 feet of the turtles and an approved biologist was onsite during any adjacent maintenance activities to monitor.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Overall, the ±600-acre Preserve was in good condition during the 2021 monitoring year. During the 2021 wet-season sampling effort, no listed federally threatened vernal pool fairy shrimp, non-listed California linderiella, or western spadefoot toads were observed. Other non-listed aquatic invertebrates were found to inhabit sampled pools, as shown in the sampling results (Attachment A). The extent of inundated pools has decreased from 2020 due to the lower-than-normal amount of precipitation that occurred from December 2020 to March 2021, which in turn caused pools to become dry between rain events. If pools do not fill or do not stay inundated for long enough, fairy shrimp cysts will not hatch.

Of the 66 vernal pools surveyed for floristics within the Preserves, 42 pools had a Prevalence Index of 3 or less. Therefore, 64% of the pools met the performance standards, a decrease of 34% from the previous year. This likely due to the abnormally low rainfall this winter and spring. Vernal pool floristic data sheets are included in Attachment B.

Invasive species occur in approximately 14% of the total Preserve. In total, approximately 50 acres were mapped with some degree of invasive species occurrence in 2021, an approximate 23-acre reduction from the 2020 survey. The most notable reductions in invasive species were observed with a reduction of yellow star-thistle (*Centaurea solstitialis*). This is due to the City's invasive removal efforts by implementing grazing prior to seed set for many of the invasive plants that occur in the Preserve.

Although the population has been reduced, the most widespread invasive species mapped within the Preserve continues to be yellow star-thistle, which and Himalayan blackberry (Table 5).

- *Yellow Star-Thistle*
    - Often requires management over several years to eliminate.
    - Yellow star-thistle seedlings are sensitive to shading, therefore establishing a new cover of desired plants, such as perennial bunchgrasses and forbs is helpful for long-term management.
    - Focus treatment on small populations or where re-infestation risk is low: Claremont, Whitney Ranch, Stanford Ranch, and western Sunset West.
    - Graze or mow in late May and June during the spiny and early flower stage to reduce seed heads. Sheep are effective earlier in the spring during the bolting phase, but goats are more effective later in the season when the plant has entered the spiny stage.
    - Apply targeted pre- and post-emergent herbicides (aminopyralid or clopyralid) between January and March for season-long control.
- *Himalayan Blackberry*
    - Often re-sprouts from vegetative fragments left behind.
    - Sensitive to shade, so planting treated areas with fast-growing native shrubs may reduce re-establishment.
    - Mechanical removal by repeated mowing or cutting often followed by digging out the rootstock.
    - Goats browse on Himalayan blackberry and can be effective at reducing and controlling this plant.

In 2021-2022, monitoring will continue in accordance with the City's GOSMP. The following recommendations for the Preserve include:

Continue regular trash pick-up within the individual Preserve areas as necessary.

- Remove tree forts and or swings from Clermont (C-1) refer to Section 3.4.2, Stanford Ranch (SR-15) refer to Section 3.4.7., and Sunset West (SW-3) refer to Section 3.4.8.

Biologists will work in coordination with City staff and contractors in the following areas.

- Help City staff identify invasive plants that can be targeted for removal during routine maintenance activities.
- Provide contracted grazers with maps showing locations of sensitive habitat to be avoided as staging sites for their herds.

Target invasive species to maintain current extent and approximate number of invasive species within Preserve. Conduct focused control of invasive species where appropriate.

- Implement high-intensity short duration grazing by sheep, goats, or cattle for yellow star-thistle. Grazing should take place prior to the formation of spines, ideally late spring to early summer (May through June). Consider treating these areas with targeted herbicides between January and March. Potentially seed with native plants next winter to help establish a cover crop to compete with yellow star-thistle. Monitor and adjust control techniques in future years depending on their success in reducing the yellow star-thistle populations. Select areas such as OC-1, WR-2, WR-3, WR-5, SR-12 to SR-16, SW-4, SW-6, and SW-8 for targeted yellow star-thistle control. Once a successful eradication protocol has been determined, it can be used on other areas of the Preserve that are more prone to re-infestation from adjacent open space areas.

- To avoid impacts to nesting birds, trees should be removed outside of the nesting season (February 1 to August 30), if possible. This work would be done under the existing Memorandum of Understanding (MOU) with the California Department of Fish and Wildlife (CDFW) for stream channel maintenance. The City should work to develop a replanting program to replace removed trees with native trees. Native tree planting is a good project for volunteers.

Hand-pull, graze, or mow stinkwort. If mowing, two mowing sessions are recommended, especially in mid-to late summer after soil has dried out as this may provide improved control.

Develop a master restoration plan with standard procedures and typical plans for addressing invasive species removal, bank stabilization, or other similar restoration goals to facilitate the implementation of restoration activities within the Preserve in the future.

- Erosion and culvert remediation.

  - If new or continued bank erosion is observed, bioremediation techniques should be implemented. Techniques may include use of willow cuttings, wattles, and mats to help in stabilizing portions of waterway banks that may be eroding. Erosion control measures should not be installed in jurisdictional waters without prior authorization from the appropriate regulatory agencies.

    - Repair gabion baskets within Garnet Creek in efforts to prevent undercutting of an existing, paved walking trail, refer to Section 3.4.3.

  - Debris should be removed from the culverts to so water can flow freely thus reducing the chance of flooding and erosion.

    - Assess culverts and remove debris and trash were necessary, refer to Section 3.4.

    - Repair or replace culvert in Stanford Ranch (SR-15) refer to Section 3.4.7.

    - Unplug culverts in Sunset West (SW-4) refer to Section 3.4.8.

5.0 REFERENCES

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Attachment A

Vernal Pool Invertebrate Survey Datasheets

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Project Rocklin Open Space
County Placer
Collect Marisa Brilts
Permit TE-778195-14.2

Date: March 01, 2021
Time: 8AM to 2PM
Temp: 3 to 20°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
								Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
								Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Orchard Creek																				
2	DRY					0%														
63	DRY					0%														
67	DRY					0%														
69	DRY					0%														
70	DRY					0%														
Placer Creek Corporate Center																				
311	DRY					0%														
316	DRY					0%														
323	DRY					0%														
330	DRY					0%														
Stanford Ranch																				
7	DRY					0%														
9	DRY					0%														
10	DRY					0%														
11	DRY					0%														
19	DRY					0%														
21	DRY					0%														
30	26	8	10	10x8	3x2	30%					x		x	x			x		x	
138	DRY					0%														
140	DRY					0%														
141	DRY					0%														
145	DRY					0%														
155	DRY					0%														
156	DRY					0%														
161	DRY					0%														
164	DRY					0%														
176	26	10	13	8x40	2x12	20%					x		x	x	x	x	x	x	x	spider
182	DRY					0%														
183	DRY					0%														
189	DRY					0%														
190	DRY					0%														
194	DRY					0%														
201	DRY					0%														
269	DRY					0%														
272	DRY					0%														
276	DRY					0%														
285	DRY					0%														

Project Rocklin Open Space
County Placer
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Permit TE-778195-14.2

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Time: 8AM to 2PM
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Township: 11 North
Range: 6 East
Section: 1-3, 10-15

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								Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
								Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Halipliidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
284	DRY					0%														
289	DRY					0%														
292	DRY					0%														
295	DRY					0%														
302	DRY					0%														

Project Rocklin Open Space
County Placer
Collector Marisa Brilts
Permit TE-778195-14.2

Date: March 19, 2021
Time: 7:30 AM to 3:30 PM
Temp: 4 to 22°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
								Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
								Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Orchard Creek																				
2	DRY					0%														
63	DRY					0%														
67	DRY					0%														
69	DRY					0%														
70	DRY					0%														
Placer Creek Corporate Center																				
311	DRY					0%														
316	DRY					0%														
323	DRY					0%														
330	DRY					0%														
Stanford Ranch																				
7	DRY					0%														
9	DRY					0%														
10	DRY					0%														
11	DRY					0%														
19	DRY					0%														
21	DRY					0%														
30	27	3	5	5x5	2x2	5%					x			x	x	x				
138	DRY					0%														
140	DRY					0%														
141	DRY					0%														
145	DRY					0%														
155	DRY					0%														
156	DRY					0%														
161	DRY					0%														
164	DRY					0%														
176	33	5	5	15x4	5x1	10%					x			x	x	x	x	x	x	garter snake
182	DRY					0%														
183	DRY					0%														
189	DRY					0%														
190	DRY					0%														
194	DRY					0%														
201	DRY					0%														
269	DRY					0%														
272	DRY					0%														
276	DRY					0%														
285	DRY					0%														

Project Rocklin Open Space
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Date: March 19, 2021
Time: 7:30 AM to 3:30 PM
Temp: 4 to 22°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
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Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
								Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
								Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Halipliidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
284	DRY					0%														
289	DRY					0%														
292	DRY					0%														
295	DRY					0%														
302	DRY																			

Project Rocklin Open Space
County Placer
Collect Marisa Brilts
Permit TE-778195-14.2

Date: April 27, 2021
Time: 7:30AM to 3:30PM
Temp: 10 to 23°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (inches)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda	Turbellaria	Insecta				Notes
																	Coleoptera		Hemiptera	Diptera	
									Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Orchard Creek																					
2	DRY						0%														
63	DRY						0%														
67	DRY						0%														
69	DRY						0%														
70	DRY						0%														
Placer Creek Corporate Center																					
311	DRY						0%														
316	DRY						0%														
323	DRY						0%														
330	DRY						0%														
Stanford Ranch																					
7	DRY						0%														
9	DRY						0%														
10	DRY						0%														
11	DRY						0%														
19	DRY						0%														
21	DRY						0%														
30	DRY						0%														
138	DRY						0%														
140	DRY						0%														
141	DRY						0%														
145	DRY						0%														
155	DRY						0%														
156	DRY						0%														
161	DRY						0%														
164	DRY						0%														
176	DRY						0%														
182	DRY						0%														
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189	DRY						0%														
190	DRY						0%														
194	DRY						0%														
201	DRY						0%														
269	DRY						0%														
272	DRY						0%														
276	DRY						0%														
285	DRY						0%														

Project Rocklin Open Space
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Date: April 27, 2021
Time: 7:30AM to 3:30PM
Temp: 10 to 23°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (inches)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda	Turbellaria	Insecta				Notes
																	Coleoptera		Hemiptera	Diptera	
									Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
284	DRY						0%														
289	DRY						0%														
292	DRY						0%														
295	DRY						0%														
302	DRY						0%														

Project Rocklin Open Space
County Placer
Collect Marisa Brilts
Permit TE-778195-14.2

Date: March 01, 2021
Time: 8AM to 2PM
Temp: 3 to 20°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (inches)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
									Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
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Sunset West																					
42	DRY																				
52	DRY																				
74	DRY																				
76	DRY																				
100	DRY																				
109	DRY																				
115	DRY																				
207	DRY																				
209	DRY																				
214	DRY																				
224	DRY																				
231	DRY																				
232	DRY																				
235	DRY																				
236	DRY																				
241	DRY																				
54	DRY																				
127	DRY																				
132	DRY																				
247	DRY																				
124	DRY																				
60	DRY																				
135	DRY																				
61	DRY																				
62	DRY																				
264	DRY																				

Project Rocklin Open Space
County Placer
Collect Marisa Brilts
Permit TE-778195-14.2

Date: March 19, 2021
Time: 7:30AM to 3:30PM
Temp: 4 to 22°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (inches)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
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Sunset West																					
42	DRY																				
52	DRY																				
74	DRY																				
76	DRY																				
100	DRY																				
109	DRY																				
115	DRY																				
207	DRY																				
209	DRY																				
214	DRY																				
224	DRY																				
231	DRY																				
232	DRY																				
235	DRY																				
236	DRY																				
241	DRY																				
54	DRY																				
127	DRY																				
132	DRY																				
247	DRY																				
124	DRY																				
60	DRY																				
135	DRY																				
61	DRY																				
62	DRY																				
264	DRY																				

Project Rocklin Open Space
County Placer
Collect Marisa Brilts
Permit TE-778195-14.2

Date:
Time:
Temp: 10 to 23°C
Weather: Sunny and clear

Quad: Roseville and Rocklin
Township: 11 North
Range: 6 East
Section: 1-3, 10-15

Vernal Pool #	Water Temp. (°C)	Water Depth (cm)	Estimated Maximum Depth (inches)	Estimated Maximum Depth (cm)	Present Surface Area (ft x ft)	Present Surface Area (mxm)	Inundation (%)	Photo #	Crustacea							Turbellaria	Insecta				Notes
									Anostraca		Notostraca	Cladocera	Conchostraca	Copepoda	Ostracoda		Coleoptera		Hemiptera	Diptera	
									Vernal Pool Fairy Shrimp (B. lynchi)	California Linderiella	Vernal Pool Tadpole Shrimp	Water Fleas	Clam Shrimps	Copepods	Seed Shrimp	Flatworms	Dytiscidae (Diving Water Beetles)	Haliplidae (Crawling Water Beetles)	Notonectidae (Backswimmers)	Chironomidae (Midge)	
Sunset West																					
42	DRY																				
52	DRY																				
74	DRY																				
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207	DRY																				
209	DRY																				
214	DRY																				
224	DRY																				
231	DRY																				
232	DRY																				
235	DRY																				
236	DRY																				
241	DRY																				
54	DRY																				
127	DRY																				
132	DRY																				
247	DRY																				
124	DRY																				
60	DRY																				
135	DRY																				
61	DRY																				
62	DRY																				
264	DRY																				

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Attachment B

Vernal Pool Floristic Datasheets

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2021 Plant Species Frequency for Rocklin - Orchard Creek

Species	Frequency
Amsinckia sp.	40.00%
Bromus hordeaceus	60.00%
Elymus caput-medusae	100.00%
Erodium botrys	60.00%
Eryngium vaseyi	60.00%
Festuca perennis	100.00%
Hordeum marinum	40.00%
Hordeum murinum	20.00%
Lathyrus angulatus	20.00%
Leontodon saxatilis	80.00%
Plagiobothrys stipitatus	20.00%
Trifolium dubium	40.00%
Trifolium hirtum	80.00%
Trifolium sp.	20.00%
Triteleia hyacinthina	20.00%
Vicia sp.	100.00%

2021 Monitoring Summary for Rocklin - Orchard Creek

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-002	50%	3.85	2	20.00%	18.79%	10	2	8	81.21%
VP-063	70%	3.78	1	11.11%	18.36%	9	1	8	81.64%
VP-067	60%	4.41	1	11.11%	1.77%	9	2	7	96.46%
VP-069	90%	4.50	0	0.00%	0.00%	7	1	6	97.62%
VP-070	50%	4.36	1	12.50%	1.47%	8	1	7	98.53%

Wetland: VP-002

Species	Cover Class
Bromus hordeaceus	2
Elymus caput-medusae	3
Eryngium vaseyi	2
Festuca perennis	2
Hordeum murinum	2
Leontodon saxatilis	1
Plagiobothrys stipitatus	2
Trifolium hirtum	2
Trifolium sp.	2
Vicia sp.	2

Statistics	
Vegetative Cover:	50%
Prevalence Index:	3.85
CRAM RIchness:	2
CRAM Cover:	18.79%
% CVVP Species:	20.00%
CVVP Cover:	18.79%
Species Richness:	10
Native Species:	2
Non-Native Species:	8
Non-Native Cover:	81.21%

Wetland: VP-063

Species	Cover Class
Elymus caput-medusae	3
Erodium botrys	2
Eryngium vaseyi	3
Festuca perennis	3
Hordeum marinum	2
Leontodon saxatilis	2
Trifolium dubium	2
Trifolium hirtum	2
Vicia sp.	2

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.78
CRAM RIchness:	1
CRAM Cover:	18.36%
% CVVP Species:	11.11%
CVVP Cover:	18.36%
Species Richness:	9
Native Species:	1
Non-Native Species:	8
Non-Native Cover:	81.64%

Wetland: VP-067

Species	Cover Class
Amsinckia sp.	1
Bromus hordeaceus	2
Elymus caput-medusae	3
Erodium botrys	2
Festuca perennis	3
Lathyrus angulatus	1
Trifolium hirtum	2
Triteleia hyacinthina	1
Vicia sp.	3

Statistics	
Vegetative Cover:	60%
Prevalence Index:	4.41
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	11.11%
CVVP Cover:	1.77%
Species Richness:	9
Native Species:	2
Non-Native Species:	7
Non-Native Cover:	96.46%

Wetland: VP-069

Species	Cover Class
Amsinckia sp.	1
Bromus hordeaceus	2
Elymus caput-medusae	3
Festuca perennis	2
Leontodon saxatilis	0
Trifolium dubium	2
Vicia sp.	3

Statistics	
Vegetative Cover:	90%
Prevalence Index:	4.50
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	0.00%
CVVP Cover:	0.00%
Species Richness:	7
Native Species:	1
Non-Native Species:	6
Non-Native Cover:	97.62%

Wetland: VP-070

Species	Cover Class
Elymus caput-medusae	4
Erodium botrys	2
Eryngium vaseyi	1
Festuca perennis	3
Hordeum marinum	2
Leontodon saxatilis	2
Trifolium hirtum	2
Vicia sp.	3

Statistics	
Vegetative Cover:	50%
Prevalence Index:	4.36
CRAM RIchness:	1
CRAM Cover:	1.47%
% CVVP Species:	12.50%
CVVP Cover:	1.47%
Species Richness:	8
Native Species:	1
Non-Native Species:	7
Non-Native Cover:	98.53%

2021 Plant Species Frequency for Rocklin - Placer Creek Corporate Center

Species	Frequency
Avena sp.	66.67%
Briza minor	66.67%
Bromus diandrus	33.33%
Bromus hordeaceus	66.67%
Calochortus superbus	33.33%
Centromadia fitchii	33.33%
Downingia ornatissima	33.33%
Elymus caput-medusae	66.67%
Erodium botrys	66.67%
Eryngium vaseyi	33.33%
Festuca perennis	100.00%
Holocarpha virgata	66.67%
Hordeum marinum	33.33%
Lasthenia glaberrima	33.33%
Leontodon saxatilis	100.00%
Lythrum hyssopifolia	66.67%
Plagiobothrys canescens	33.33%
Plagiobothrys stipitatus	66.67%
Psilocarphus brevissimus	33.33%
Rumex crispus	33.33%
Trifolium hirtum	33.33%
Trifolium sp.	33.33%
Triteleia hyacinthina	66.67%
Vicia sp.	33.33%

2021 Monitoring Summary for Rocklin - Placer Creek Corporate Center

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-311	50%	1.96	6	50.00%	62.05%	12	6	6	37.95%
VP-316	70%	3.97	0	0.00%	0.00%	12	2	10	92.42%
VP-323	80%	3.87	2	15.38%	8.85%	13	4	9	88.28%

Wetland: VP-311

Species	Cover Class
Downingia ornatissima	2
Eryngium vaseyi	3
Festuca perennis	3
Hordeum marinum	2
Lasthenia glaberrima	3
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Plagiobothrys canescens	1
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	3
Trifolium sp.	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	1.96
CRAM RIchness:	5
CRAM Cover:	60.80%
% CVVP Species:	50.00%
CVVP Cover:	62.05%
Species Richness:	12
Native Species:	6
Non-Native Species:	6
Non-Native Cover:	37.95%

Wetland: VP-316

Species	Cover Class
Avena sp.	2
Briza minor	2
Bromus hordeaceus	2
Centromadia fitchii	2
Elymus caput-medusae	3
Erodium botrys	2
Festuca perennis	4
Holocarpha virgata	1
Leontodon saxatilis	2
Rumex crispus	2
Trifolium hirtum	2
Vicia sp.	2

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.97
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	0.00%
CVVP Cover:	0.00%
Species Richness:	12
Native Species:	2
Non-Native Species:	10
Non-Native Cover:	92.42%

Wetland: VP-323

Species	Cover Class
Avena sp.	2
Briza minor	2
Bromus diandrus	2
Bromus hordeaceus	3
Calochortus superbus	1
Elymus caput-medusae	3
Erodium botrys	2
Festuca perennis	2
Holocarpha virgata	1
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Plagiobothrys stipitatus	1
Triteleia hyacinthina	2

Statistics	
Vegetative Cover:	80%
Prevalence Index:	3.87
CRAM RIchness:	1
CRAM Cover:	1.44%
% CVVP Species:	15.38%
CVVP Cover:	8.85%
Species Richness:	13
Native Species:	4
Non-Native Species:	9
Non-Native Cover:	88.28%

2021 Plant Species Frequency for Rocklin - Stanford Ranch

Species	Frequency
Aira caryophyllea	3.23%
Alopecurus saccatus	9.68%
Avena sp.	32.26%
Brassica sp.	3.23%
Briza minor	22.58%
Brodiaea minor	3.23%
Brodiaea sp.	19.35%
Bromus diandrus	3.23%
Bromus hordeaceus	29.03%
Castilleja campestris	3.23%
Centaurea solstitialis	9.68%
Centromadia fitchii	3.23%
Convolvulus arvensis	6.45%
Croton setiger	12.90%
Cynodon dactylon	3.23%
Deschampsia danthonioides	45.16%
Eleocharis macrostachya	22.58%
Elymus caput-medusae	77.42%
Erodium botrys	45.16%
Eryngium vaseyi	25.81%
Festuca microstachys	3.23%
Festuca perennis	45.16%
Geranium dissectum	3.23%
Holocarpha virgata	12.90%
Hordeum marinum	6.45%
Hordeum murinum	58.06%
Juncus bufonius	3.23%
Lasthenia fremontii	58.06%
Leontodon saxatilis	41.94%
Lythrum hyssopifolia	22.58%
Melilotus indicus	6.45%
Navarretia leucocephala	32.26%
Phyla nodiflora	3.23%
Plagiobothrys stipitatus	67.74%
Plantago erecta	3.23%
Polypogon monspeliensis	6.45%

Populus fremontii	3.23%
Psilocarphus brevissimus	51.61%
Ranunculus bonariensis	6.45%
Rumex crispus	9.68%
Scirpus californicus	3.23%
Trichostema lanceolatum	6.45%
Trifolium hirtum	19.35%
Trifolium sp.	3.23%
Trifolium subterraneum	3.23%
Triteleia hyacinthina	3.23%
Vicia sp.	3.23%

2021 Monitoring Summary for Rocklin - Stanford Ranch

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-007	80%	1.12	5	71.43%	97.12%	7	5	2	2.88%
VP-009	50%	1.87	4	40.00%	56.55%	10	7	3	37.24%
VP-010	50%	2.30	3	50.00%	67.86%	6	3	3	32.14%
VP-011	75%	1.26	6	54.55%	92.51%	11	7	4	5.24%
VP-019	88%	1.51	3	37.50%	84.96%	8	4	4	10.53%
VP-030	98%	1.11	2	50.00%	95.00%	4	2	2	5.00%
VP-051	50%	2.73	3	27.27%	22.40%	11	3	8	77.60%
VP-138	96%	2.33	3	27.27%	56.16%	11	3	8	43.84%
VP-140	85%	2.34	3	27.27%	57.76%	11	4	7	41.81%
VP-141	85%	2.37	2	14.29%	48.36%	14	3	11	49.45%
VP-145	94%	1.25	3	50.00%	98.20%	6	3	3	1.80%
VP-155	95%	1.51	4	33.33%	85.86%	12	6	6	8.08%
VP-156	95%	1.37	3	30.00%	95.17%	10	4	6	4.14%
VP-161	75%	1.51	4	44.44%	88.64%	9	4	5	11.36%
VP-164	98%	4.43	1	14.29%	3.82%	7	1	6	96.18%
VP-176	90%	2.19	2	20.00%	15.16%	10	4	6	12.70%
VP-182	80%	1.16	5	50.00%	94.76%	10	6	4	4.90%
VP-183	60%	1.16	3	60.00%	95.91%	5	3	2	4.09%
VP-189	90%	1.19	4	66.67%	96.05%	6	5	1	3.39%
VP-190	50%	1.21	5	71.43%	95.35%	7	5	2	4.65%
VP-194	85%	1.14	6	75.00%	96.05%	8	6	2	3.95%
VP-201	75%	1.23	4	66.67%	92.36%	6	5	1	3.82%
VP-269	80%	1.10	1	25.00%	93.09%	4	1	3	6.91%
VP-272	50%	4.55	2	33.33%	11.32%	6	3	3	83.02%
VP-276	75%	1.51	4	66.67%	88.68%	6	4	2	11.32%
VP-284	80%	2.06	2	22.22%	71.93%	9	3	6	22.81%
VP-285	95%	3.74	1	11.11%	12.70%	9	3	6	84.43%
VP-289	95%	4.17	1	8.33%	0.58%	12	2	10	98.84%
VP-292	95%	1.36	7	43.75%	92.05%	16	9	7	5.63%
VP-295	98%	1.15	3	42.86%	93.03%	7	3	4	6.97%
VP-302	85%	2.75	2	18.18%	46.59%	11	2	9	53.41%

Wetland: VP-007

Species	Cover Class
Deschampsia danthonioides	0
Elymus caput-medusae	0
Eryngium vaseyi	0
Hordeum murinum	1
Lasthenia fremontii	2
Navarretia leucocephala	3
Psilocarphus brevissimus	4

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.12
CRAM RIchness:	5
CRAM Cover:	97.12%
% CVVP Species:	71.43%
CVVP Cover:	97.12%
Species Richness:	7
Native Species:	5
Non-Native Species:	2
Non-Native Cover:	2.88%

Wetland: VP-009

Species	Cover Class
Croton setiger	1
Eleocharis macrostachya	3
Elymus caput-medusae	0
Eryngium vaseyi	1
Holocarpha virgata	1
Leontodon saxatilis	2
Lythrum hyssopifolia	3
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	1
Trichostema lanceolatum	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	1.87
CRAM RIchness:	4
CRAM Cover:	56.55%
% CVVP Species:	40.00%
CVVP Cover:	56.55%
Species Richness:	10
Native Species:	7
Non-Native Species:	3
Non-Native Cover:	37.24%

Wetland: VP-010

Species	Cover Class
Alopecurus saccatus	1
Deschampsia danthonioides	0
Elymus caput-medusae	1
Erodium botrys	1
Hordeum murinum	1
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	50%
Prevalence Index:	2.30
CRAM RIchness:	3
CRAM Cover:	67.86%
% CVVP Species:	50.00%
CVVP Cover:	67.86%
Species Richness:	6
Native Species:	3
Non-Native Species:	3
Non-Native Cover:	32.14%

Wetland: VP-011

Species	Cover Class
Briza minor	0
Croton setiger	1
Deschampsia danthonioides	0
Eleocharis macrostachya	1
Hordeum murinum	1
Lasthenia fremontii	1
Leontodon saxatilis	1
Lythrum hyssopifolia	0
Navarretia leucocephala	4
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	3

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.26
CRAM RIchness:	6
CRAM Cover:	92.51%
% CVVP Species:	54.55%
CVVP Cover:	92.51%
Species Richness:	11
Native Species:	7
Non-Native Species:	4
Non-Native Cover:	5.24%

Wetland: VP-019

Species	Cover Class
Brodiaea sp.	1
Centaurea solstitialis	0
Elymus caput-medusae	0
Erodium botrys	1
Festuca perennis	1
Lasthenia fremontii	2
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	88%
Prevalence Index:	1.51
CRAM RIchness:	3
CRAM Cover:	84.96%
% CVVP Species:	37.50%
CVVP Cover:	84.96%
Species Richness:	8
Native Species:	4
Non-Native Species:	4
Non-Native Cover:	10.53%

Wetland: VP-030

Species	Cover Class
Alopecurus saccatus	1
Avena sp.	0
Eleocharis macrostachya	4
Festuca perennis	1

Statistics	
Vegetative Cover:	98%
Prevalence Index:	1.11
CRAM RIchness:	2
CRAM Cover:	95.00%
% CVVP Species:	50.00%
CVVP Cover:	95.00%
Species Richness:	4
Native Species:	2
Non-Native Species:	2
Non-Native Cover:	5.00%

Wetland: VP-051

Species	Cover Class
Avena sp.	0
Briza minor	0
Bromus hordeaceus	0
Elymus caput-medusae	1
Erodium botrys	1
Festuca perennis	4
Hordeum murinum	0
Lasthenia fremontii	1
Leontodon saxatilis	1
Navarretia leucocephala	1
Psilocarphus brevissimus	2

Statistics	
Vegetative Cover:	50%
Prevalence Index:	2.73
CRAM RIchness:	3
CRAM Cover:	22.40%
% CVVP Species:	27.27%
CVVP Cover:	22.40%
Species Richness:	11
Native Species:	3
Non-Native Species:	8
Non-Native Cover:	77.60%

Wetland: VP-138

Species	Cover Class
Bromus hordeaceus	0
Convolvulus arvensis	1
Elymus caput-medusae	1
Erodium botrys	0
Eryngium vaseyi	2
Hordeum marinum	3
Hordeum murinum	2
Lasthenia fremontii	4
Plagiobothrys stipitatus	1
Rumex crispus	0
Trifolium hirtum	1

Statistics	
Vegetative Cover:	96%
Prevalence Index:	2.33
CRAM RIchness:	3
CRAM Cover:	56.16%
% CVVP Species:	27.27%
CVVP Cover:	56.16%
Species Richness:	11
Native Species:	3
Non-Native Species:	8
Non-Native Cover:	43.84%

Wetland: VP-140

Species	Cover Class
Avena sp.	1
Eleocharis macrostachya	0
Elymus caput-medusae	0
Erodium botrys	0
Eryngium vaseyi	1
Festuca perennis	1
Geranium dissectum	0
Holocarpha virgata	0
Lasthenia fremontii	4
Leontodon saxatilis	3
Trifolium hirtum	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	2.34
CRAM RIchness:	3
CRAM Cover:	57.76%
% CVVP Species:	27.27%
CVVP Cover:	57.76%
Species Richness:	11
Native Species:	4
Non-Native Species:	7
Non-Native Cover:	41.81%

Wetland: VP-141

Species	Cover Class
Bromus hordeaceus	1
Cynodon dactylon	1
Eleocharis macrostachya	1
Elymus caput-medusae	1
Erodium botrys	1
Festuca perennis	1
Hordeum murinum	2
Leontodon saxatilis	2
Melilotus indicus	1
Plagiobothrys stipitatus	4
Polypogon monspeliensis	2
Scirpus californicus	1
Trifolium hirtum	1
Vicia sp.	0

Statistics	
Vegetative Cover:	85%
Prevalence Index:	2.37
CRAM RIchness:	2
CRAM Cover:	48.36%
% CVVP Species:	14.29%
CVVP Cover:	48.36%
Species Richness:	14
Native Species:	3
Non-Native Species:	11
Non-Native Cover:	49.45%

Wetland: VP-145

Species	Cover Class
Brassica sp.	0
Deschampsia danthonioides	2
Elymus caput-medusae	0
Festuca perennis	0
Lasthenia fremontii	4
Plagiobothrys stipitatus	1

Statistics	
Vegetative Cover:	94%
Prevalence Index:	1.25
CRAM RIchness:	3
CRAM Cover:	98.20%
% CVVP Species:	50.00%
CVVP Cover:	98.20%
Species Richness:	6
Native Species:	3
Non-Native Species:	3
Non-Native Cover:	1.80%

Wetland: VP-155

Species	Cover Class
Brodiaea minor	1
Centaurea solstitialis	0
Croton setiger	1
Elymus caput-medusae	0
Erodium botrys	0
Eryngium vaseyi	1
Festuca perennis	1
Hordeum murinum	0
Lasthenia fremontii	4
Leontodon saxatilis	1
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.51
CRAM RIchness:	5
CRAM Cover:	88.89%
% CVVP Species:	33.33%
CVVP Cover:	85.86%
Species Richness:	12
Native Species:	6
Non-Native Species:	6
Non-Native Cover:	8.08%

Wetland: VP-156

Species	Cover Class
Avena sp.	0
Briza minor	0
Brodiaea sp.	0
Deschampsia danthonioides	2
Elymus caput-medusae	0
Erodium botrys	0
Festuca perennis	0
Lasthenia fremontii	3
Leontodon saxatilis	0
Psilocarphus brevissimus	2

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.37
CRAM RIchness:	3
CRAM Cover:	95.17%
% CVVP Species:	30.00%
CVVP Cover:	95.17%
Species Richness:	10
Native Species:	4
Non-Native Species:	6
Non-Native Cover:	4.14%

Wetland: VP-161

Species	Cover Class
Avena sp.	0
Deschampsia danthonioides	2
Elymus caput-medusae	1
Erodium botrys	1
Festuca perennis	1
Lasthenia fremontii	2
Leontodon saxatilis	1
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.51
CRAM RIchness:	4
CRAM Cover:	88.64%
% CVVP Species:	44.44%
CVVP Cover:	88.64%
Species Richness:	9
Native Species:	4
Non-Native Species:	5
Non-Native Cover:	11.36%

Wetland: VP-164

Species	Cover Class
Briza minor	0
Elymus caput-medusae	1
Erodium botrys	2
Festuca perennis	2
Hordeum murinum	3
Lasthenia fremontii	1
Trifolium hirtum	1

Statistics	
Vegetative Cover:	98%
Prevalence Index:	4.43
CRAM RIchness:	1
CRAM Cover:	3.82%
% CVVP Species:	14.29%
CVVP Cover:	3.82%
Species Richness:	7
Native Species:	1
Non-Native Species:	6
Non-Native Cover:	96.18%

Wetland: VP-176

Species	Cover Class
Avena sp.	1
Briza minor	0
Bromus hordeaceus	1
Deschampsia danthonioides	1
Eleocharis macrostachya	2
Elymus caput-medusae	1
Hordeum murinum	1
Leontodon saxatilis	1
Phyla nodiflora	5
Populus fremontii	0

Statistics	
Vegetative Cover:	90%
Prevalence Index:	2.19
CRAM RIchness:	2
CRAM Cover:	15.16%
% CVVP Species:	20.00%
CVVP Cover:	15.16%
Species Richness:	10
Native Species:	4
Non-Native Species:	6
Non-Native Cover:	12.70%

Wetland: VP-182

Species	Cover Class
Bromus hordeaceus	0
Croton setiger	0
Deschampsia danthonioides	1
Hordeum murinum	1
Lasthenia fremontii	2
Leontodon saxatilis	0
Lythrum hyssopifolia	1
Navarretia leucocephala	3
Plagiobothrys stipitatus	2
Psilocarphus brevissimus	4

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.16
CRAM RIchness:	5
CRAM Cover:	94.76%
% CVVP Species:	50.00%
CVVP Cover:	94.76%
Species Richness:	10
Native Species:	6
Non-Native Species:	4
Non-Native Cover:	4.90%

Wetland: VP-183

Species	Cover Class
Elymus caput-medusae	1
Hordeum murinum	0
Lasthenia fremontii	1
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	2

Statistics	
Vegetative Cover:	60%
Prevalence Index:	1.16
CRAM RIchness:	3
CRAM Cover:	95.91%
% CVVP Species:	60.00%
CVVP Cover:	95.91%
Species Richness:	5
Native Species:	3
Non-Native Species:	2
Non-Native Cover:	4.09%

Wetland: VP-189

Species	Cover Class
Avena sp.	1
Brodiaea sp.	0
Deschampsia danthonioides	1
Lasthenia fremontii	1
Navarretia leucocephala	4
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	1.19
CRAM RIchness:	4
CRAM Cover:	96.05%
% CVVP Species:	66.67%
CVVP Cover:	96.05%
Species Richness:	6
Native Species:	5
Non-Native Species:	1
Non-Native Cover:	3.39%

Wetland: VP-190

Species	Cover Class
Deschampsia danthonioides	1
Elymus caput-medusae	1
Hordeum murinum	1
Lasthenia fremontii	2
Navarretia leucocephala	1
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	3

Statistics	
Vegetative Cover:	50%
Prevalence Index:	1.21
CRAM RIchness:	5
CRAM Cover:	95.35%
% CVVP Species:	71.43%
CVVP Cover:	95.35%
Species Richness:	7
Native Species:	5
Non-Native Species:	2
Non-Native Cover:	4.65%

Wetland: VP-194

Species	Cover Class
Alopecurus saccatus	0
Deschampsia danthonioides	1
Elymus caput-medusae	1
Eryngium vaseyi	1
Lythrum hyssopifolia	1
Navarretia leucocephala	3
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	4

Statistics	
Vegetative Cover:	85%
Prevalence Index:	1.14
CRAM RIchness:	6
CRAM Cover:	96.05%
% CVVP Species:	75.00%
CVVP Cover:	96.05%
Species Richness:	8
Native Species:	6
Non-Native Species:	2
Non-Native Cover:	3.95%

Wetland: VP-201

Species	Cover Class
Deschampsia danthonioides	1
Lasthenia fremontii	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	4
Trichostema lanceolatum	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.23
CRAM RIchness:	4
CRAM Cover:	92.36%
% CVVP Species:	66.67%
CVVP Cover:	92.36%
Species Richness:	6
Native Species:	5
Non-Native Species:	1
Non-Native Cover:	3.82%

Wetland: VP-269

Species	Cover Class
Lythrum hyssopifolia	1
Melilotus indicus	1
Navarretia leucocephala	5
Polypogon monspeliensis	0

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.10
CRAM RIchness:	1
CRAM Cover:	93.09%
% CVVP Species:	25.00%
CVVP Cover:	93.09%
Species Richness:	4
Native Species:	1
Non-Native Species:	3
Non-Native Cover:	6.91%

Wetland: VP-272

Species	Cover Class
Bromus diandrus	1
Elymus caput-medusae	1
Holocarpha virgata	1
Hordeum murinum	3
Navarretia leucocephala	1
Psilocarphus brevissimus	1

Statistics	
Vegetative Cover:	50%
Prevalence Index:	4.55
CRAM RIchness:	2
CRAM Cover:	11.32%
% CVVP Species:	33.33%
CVVP Cover:	11.32%
Species Richness:	6
Native Species:	3
Non-Native Species:	3
Non-Native Cover:	83.02%

Wetland: VP-276

Species	Cover Class
Deschampsia danthonioides	1
Elymus caput-medusae	1
Hordeum murinum	1
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	1
Ranunculus bonariensis	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	1.51
CRAM RIchness:	4
CRAM Cover:	88.68%
% CVVP Species:	66.67%
CVVP Cover:	88.68%
Species Richness:	6
Native Species:	4
Non-Native Species:	2
Non-Native Cover:	11.32%

Wetland: VP-284

Species	Cover Class
Brodiaea sp.	1
Bromus hordeaceus	1
Castilleja campestris	1
Elymus caput-medusae	0
Erodium botrys	1
Leontodon saxatilis	0
Plagiobothrys stipitatus	3
Plantago erecta	1
Trifolium hirtum	1

Statistics	
Vegetative Cover:	80%
Prevalence Index:	2.06
CRAM RIchness:	2
CRAM Cover:	71.93%
% CVVP Species:	22.22%
CVVP Cover:	71.93%
Species Richness:	9
Native Species:	3
Non-Native Species:	6
Non-Native Cover:	22.81%

Wetland: VP-285

Species	Cover Class
Aira caryophyllea	2
Avena sp.	1
Bromus hordeaceus	2
Centromadia fitchii	1
Elymus caput-medusae	2
Festuca microstachys	2
Holocarpha virgata	0
Hordeum marinum	3
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	95%
Prevalence Index:	3.74
CRAM RIchness:	1
CRAM Cover:	12.70%
% CVVP Species:	11.11%
CVVP Cover:	12.70%
Species Richness:	9
Native Species:	3
Non-Native Species:	6
Non-Native Cover:	84.43%

Wetland: VP-289

Species	Cover Class
Brodiaea sp.	0
Bromus hordeaceus	0
Centaurea solstitialis	1
Convolvulus arvensis	0
Elymus caput-medusae	1
Erodium botrys	1
Festuca perennis	2
Hordeum murinum	2
Leontodon saxatilis	3
Trifolium hirtum	1
Trifolium subterraneum	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	4.17
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	8.33%
CVVP Cover:	0.58%
Species Richness:	12
Native Species:	2
Non-Native Species:	10
Non-Native Cover:	98.84%

Wetland: VP-292

Species	Cover Class
Avena sp.	0
Briza minor	1
Brodiaea sp.	1
Bromus hordeaceus	0
Deschampsia danthonioides	2
Elymus caput-medusae	0
Erodium botrys	0
Eryngium vaseyi	1
Festuca perennis	0
Hordeum murinum	1
Juncus bufonius	0
Lasthenia fremontii	4
Navarretia leucocephala	1
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	2
Ranunculus bonariensis	0

Statistics	
Vegetative Cover:	95%
Prevalence Index:	1.36
CRAM RIchness:	7
CRAM Cover:	92.05%
% CVVP Species:	43.75%
CVVP Cover:	92.05%
Species Richness:	16
Native Species:	9
Non-Native Species:	7
Non-Native Cover:	5.63%

Wetland: VP-295

Species	Cover Class
Eleocharis macrostachya	5
Eryngium vaseyi	1
Festuca perennis	1
Hordeum murinum	0
Leontodon saxatilis	0
Plagiobothrys stipitatus	1
Rumex crispus	1

Statistics	
Vegetative Cover:	98%
Prevalence Index:	1.15
CRAM RIchness:	3
CRAM Cover:	93.03%
% CVVP Species:	42.86%
CVVP Cover:	93.03%
Species Richness:	7
Native Species:	3
Non-Native Species:	4
Non-Native Cover:	6.97%

Wetland: VP-302

Species	Cover Class
Avena sp.	0
Briza minor	1
Elymus caput-medusae	2
Erodium botrys	1
Festuca perennis	1
Hordeum murinum	2
Lasthenia fremontii	1
Lythrum hyssopifolia	1
Plagiobothrys stipitatus	3
Rumex crispus	1
Trifolium sp.	0

Statistics	
Vegetative Cover:	85%
Prevalence Index:	2.75
CRAM RIchness:	2
CRAM Cover:	46.59%
% CVVP Species:	18.18%
CVVP Cover:	46.59%
Species Richness:	11
Native Species:	2
Non-Native Species:	9
Non-Native Cover:	53.41%

2021 Plant Species Frequency for Rocklin - Sunset West

Species	Frequency
Aira caryophyllea	42.31%
Avena sp.	30.77%
Briza minor	26.92%
Bromus diandrus	15.38%
Bromus hordeaceus	65.38%
Convolvulus arvensis	7.69%
Crassula aquatica	19.23%
Cyperus eragrostis	3.85%
Downingia bicornuta	3.85%
Downingia ornatissima	3.85%
Eleocharis acicularis	11.54%
Eleocharis macrostachya	42.31%
Elymus caput-medusae	69.23%
Erodium botrys	38.46%
Erodium sp.	3.85%
Eryngium vaseyi	73.08%
Festuca bromoides	50.00%
Festuca perennis	76.92%
Holocarpha virgata	34.62%
Hordeum marinum	61.54%
Hordeum murinum	26.92%
Juncus effusus	3.85%
Juncus sp.	11.54%
Lasthenia fremontii	34.62%
Lasthenia glaberrima	19.23%
Lathyrus angulatus	7.69%
Layia fremontii	3.85%
Leontodon saxatilis	88.46%
Lupinus bicolor	15.38%
Lythrum hyssopifolia	53.85%
Medicago polymorpha	23.08%
Mentha pulegium	7.69%
Mentha sp.	19.23%
Navarretia leucocephala	7.69%
Plagiobothrys stipitatus	34.62%
Psilocarphus brevissimus	19.23%

Ranunculus bonariensis	23.08%
Rumex crispus	38.46%
Salix exigua	3.85%
Trifolium dubium	3.85%
Trifolium hirtum	38.46%
Trifolium incarnatum	3.85%
Trifolium sp.	7.69%
Triteleia hyacinthina	19.23%
Vicia sp.	42.31%

2021 Monitoring Summary for Rocklin - Sunset West

Wetland	Cover	PI	CVVP Species		CVVP Cover	Species Richness	Native Species	Non-Native Species	Non-Native Cover
VP-042	50%	2.43	6	40.00%	47.63%	15	7	8	50.79%
VP-052	90%	2.51	2	13.33%	10.21%	15	3	12	68.86%
VP-054	80%	1.89	9	52.94%	64.42%	17	9	8	35.58%
VP-060	60%	1.83	12	63.16%	70.51%	19	12	7	29.49%
VP-061	40%	1.56	4	57.14%	81.36%	7	4	3	18.64%
VP-062	40%	1.92	4	40.00%	61.14%	10	4	6	38.86%
VP-074	45%	3.30	3	23.08%	19.01%	13	4	9	74.30%
VP-076	70%	3.66	2	16.67%	3.85%	12	2	10	96.15%
VP-100	70%	3.15	5	31.25%	34.58%	16	5	11	65.42%
VP-109	60%	3.92	1	10.00%	7.85%	10	2	8	90.63%
VP-115	70%	3.70	4	28.57%	18.29%	14	4	10	81.71%
VP-124	70%	2.07	1	14.29%	38.14%	7	5	2	32.13%
VP-132	90%	2.22	5	41.67%	50.70%	12	5	7	49.30%
VP-135	75%	2.58	3	21.43%	46.64%	14	6	8	47.14%
VP-147	100%	1.70	2	28.57%	53.70%	7	2	5	46.30%
VP-207	75%	3.46	2	16.67%	28.01%	12	3	9	52.09%
VP-209	70%	3.74	2	18.18%	11.14%	11	2	9	88.86%
VP-214	90%	3.89	0	0.00%	0.00%	12	2	10	96.86%
VP-224	85%	3.38	1	7.69%	8.31%	13	2	11	90.08%
VP-231	60%	3.84	2	11.76%	11.88%	17	3	14	86.97%
VP-232	65%	2.16	1	10.00%	18.10%	10	4	6	59.76%
VP-235	85%	3.80	2	16.67%	12.84%	12	3	9	85.92%
VP-236	70%	3.65	2	16.67%	13.39%	12	3	9	85.31%
VP-241	75%	4.20	0	0.00%	0.00%	10	1	9	90.46%
VP-247	80%	2.61	5	41.67%	36.23%	12	5	7	63.77%
VP-264	90%	4.48	1	7.69%	1.42%	13	3	10	91.02%

Wetland: VP-042

Species	Cover Class
Aira caryophyllea	2
Bromus hordeaceus	1
Crassula aquatica	2
Eleocharis acicularis	1
Eleocharis macrostachya	1
Elymus caput-medusae	2
Eryngium vaseyi	2
Festuca bromoides	3
Festuca perennis	1
Hordeum marinum	1
Lasthenia fremontii	2
Layia fremontii	1
Leontodon saxatilis	2
Medicago polymorpha	1
Psilocarphus brevissimus	3

Statistics	
Vegetative Cover:	50%
Prevalence Index:	2.43
CRAM RIchness:	5
CRAM Cover:	46.05%
% CVVP Species:	40.00%
CVVP Cover:	47.63%
Species Richness:	15
Native Species:	7
Non-Native Species:	8
Non-Native Cover:	50.79%

Wetland: VP-052

Species	Cover Class
Avena sp.	1
Bromus hordeaceus	2
Eleocharis macrostachya	2
Elymus caput-medusae	2
Eryngium vaseyi	2
Festuca perennis	2
Hordeum marinum	2
Hordeum murinum	2
Leontodon saxatilis	2
Medicago polymorpha	2
Mentha pulegium	4
Mentha sp.	4
Rumex crispus	2
Trifolium hirtum	1
Vicia sp.	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	2.51
CRAM RIchness:	2
CRAM Cover:	10.21%
% CVVP Species:	13.33%
CVVP Cover:	10.21%
Species Richness:	15
Native Species:	3
Non-Native Species:	12
Non-Native Cover:	68.86%

Wetland: VP-054

Species	Cover Class
Avena sp.	1
Briza minor	1
Crassula aquatica	2
Eleocharis macrostachya	4
Elymus caput-medusae	2
Eryngium vaseyi	3
Festuca perennis	2
Hordeum marinum	3
Lasthenia glaberrima	2
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Navarretia leucocephala	2
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	2
Ranunculus bonariensis	2
Rumex crispus	2
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	80%
Prevalence Index:	1.89
CRAM RIchness:	8
CRAM Cover:	63.54%
% CVVP Species:	52.94%
CVVP Cover:	64.42%
Species Richness:	17
Native Species:	9
Non-Native Species:	8
Non-Native Cover:	35.58%

Wetland: VP-060

Species	Cover Class
Aira caryophyllea	2
Bromus diandrus	2
Crassula aquatica	2
Downingia bicornuta	2
Downingia ornatissima	2
Eleocharis macrostachya	4
Eryngium vaseyi	4
Festuca perennis	2
Hordeum marinum	2
Lasthenia fremontii	1
Lasthenia glaberrima	1
Lythrum hyssopifolia	2
Mentha sp.	2
Navarretia leucocephala	1
Plagiobothrys stipitatus	1
Psilocarphus brevissimus	1
Ranunculus bonariensis	3
Rumex crispus	1
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	60%
Prevalence Index:	1.83
CRAM RIchness:	11
CRAM Cover:	69.59%
% CVVP Species:	63.16%
CVVP Cover:	70.51%
Species Richness:	19
Native Species:	12
Non-Native Species:	7
Non-Native Cover:	29.49%

Wetland: VP-061

Species	Cover Class
Bromus hordeaceus	2
Eleocharis macrostachya	3
Festuca perennis	2
Hordeum murinum	2
Lasthenia fremontii	4
Plagiobothrys stipitatus	4
Psilocarphus brevissimus	3

Statistics	
Vegetative Cover:	40%
Prevalence Index:	1.56
CRAM RIchness:	4
CRAM Cover:	81.36%
% CVVP Species:	57.14%
CVVP Cover:	81.36%
Species Richness:	7
Native Species:	4
Non-Native Species:	3
Non-Native Cover:	18.64%

Wetland: VP-062

Species	Cover Class
Bromus hordeaceus	2
Eleocharis macrostachya	2
Eryngium vaseyi	3
Festuca bromoides	2
Festuca perennis	2
Hordeum marinum	1
Lasthenia fremontii	3
Leontodon saxatilis	1
Lythrum hyssopifolia	2
Plagiobothrys stipitatus	2

Statistics	
Vegetative Cover:	40%
Prevalence Index:	1.92
CRAM RIchness:	4
CRAM Cover:	61.14%
% CVVP Species:	40.00%
CVVP Cover:	61.14%
Species Richness:	10
Native Species:	4
Non-Native Species:	6
Non-Native Cover:	38.86%

Wetland: VP-074

Species	Cover Class
Aira caryophyllea	2
Bromus hordeaceus	2
Elymus caput-medusae	3
Eryngium vaseyi	1
Festuca bromoides	3
Festuca perennis	2
Holocarpha virgata	2
Lasthenia glaberrima	3
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Trifolium hirtum	1
Triteleia hyacinthina	1
Vicia sp.	2

Statistics	
Vegetative Cover:	45%
Prevalence Index:	3.30
CRAM RIchness:	2
CRAM Cover:	17.71%
% CVVP Species:	23.08%
CVVP Cover:	19.01%
Species Richness:	13
Native Species:	4
Non-Native Species:	9
Non-Native Cover:	74.30%

Wetland: VP-076

Species	Cover Class
Aira caryophyllea	3
Bromus diandrus	2
Bromus hordeaceus	2
Elymus caput-medusae	1
Eryngium vaseyi	1
Festuca bromoides	3
Festuca perennis	1
Hordeum marinum	1
Lasthenia fremontii	1
Leontodon saxatilis	2
Trifolium sp.	2
Vicia sp.	1

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.66
CRAM RIchness:	2
CRAM Cover:	3.85%
% CVVP Species:	16.67%
CVVP Cover:	3.85%
Species Richness:	12
Native Species:	2
Non-Native Species:	10
Non-Native Cover:	96.15%

Wetland: VP-100

Species	Cover Class
Aira caryophyllea	2
Avena sp.	1
Bromus hordeaceus	1
Crassula aquatica	2
Elymus caput-medusae	2
Erodium botrys	3
Eryngium vaseyi	2
Festuca bromoides	2
Leontodon saxatilis	3
Lythrum hyssopifolia	2
Medicago polymorpha	2
Plagiobothrys stipitatus	3
Psilocarphus brevissimus	2
Ranunculus bonariensis	1
Trifolium hirtum	1
Vicia sp.	1

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.15
CRAM RIchness:	5
CRAM Cover:	34.58%
% CVVP Species:	31.25%
CVVP Cover:	34.58%
Species Richness:	16
Native Species:	5
Non-Native Species:	11
Non-Native Cover:	65.42%

Wetland: VP-109

Species	Cover Class
Aira caryophyllea	3
Bromus hordeaceus	2
Elymus caput-medusae	2
Erodium botrys	2
Eryngium vaseyi	2
Festuca bromoides	3
Holocarpha virgata	1
Hordeum murinum	2
Leontodon saxatilis	3
Vicia sp.	1

Statistics	
Vegetative Cover:	60%
Prevalence Index:	3.92
CRAM RIchness:	1
CRAM Cover:	7.85%
% CVVP Species:	10.00%
CVVP Cover:	7.85%
Species Richness:	10
Native Species:	2
Non-Native Species:	8
Non-Native Cover:	90.63%

Wetland: VP-115

Species	Cover Class
Avena sp.	2
Briza minor	2
Bromus hordeaceus	2
Elymus caput-medusae	3
Erodium botrys	3
Eryngium vaseyi	2
Festuca perennis	2
Hordeum marinum	2
Hordeum murinum	2
Lasthenia fremontii	2
Leontodon saxatilis	3
Plagiobothrys stipitatus	2
Trifolium hirtum	1
Triteleia hyacinthina	0

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.70
CRAM RIchness:	3
CRAM Cover:	18.09%
% CVVP Species:	28.57%
CVVP Cover:	18.29%
Species Richness:	14
Native Species:	4
Non-Native Species:	10
Non-Native Cover:	81.71%

Wetland: VP-124

Species	Cover Class
Eleocharis macrostachya	4
Holocarpha virgata	2
Juncus sp.	2
Lupinus bicolor	2
Lythrum hyssopifolia	3
Mentha sp.	2
Salix exigua	1

Statistics	
Vegetative Cover:	70%
Prevalence Index:	2.07
CRAM RIchness:	1
CRAM Cover:	38.14%
% CVVP Species:	14.29%
CVVP Cover:	38.14%
Species Richness:	7
Native Species:	5
Non-Native Species:	2
Non-Native Cover:	32.13%

Wetland: VP-132

Species	Cover Class
Bromus hordeaceus	2
Eleocharis macrostachya	3
Elymus caput-medusae	2
Erodium botrys	1
Eryngium vaseyi	2
Festuca perennis	3
Hordeum marinum	3
Lasthenia glaberrima	3
Leontodon saxatilis	2
Plagiobothrys stipitatus	3
Ranunculus bonariensis	2
Rumex crispus	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	2.22
CRAM RIchness:	5
CRAM Cover:	50.70%
% CVVP Species:	41.67%
CVVP Cover:	50.70%
Species Richness:	12
Native Species:	5
Non-Native Species:	7
Non-Native Cover:	49.30%

Wetland: VP-135

Species	Cover Class
Erodium botrys	1
Eryngium vaseyi	4
Festuca bromoides	2
Festuca perennis	2
Hordeum marinum	3
Juncus sp.	2
Lasthenia fremontii	4
Leontodon saxatilis	1
Lupinus bicolor	1
Plagiobothrys stipitatus	2
Trifolium hirtum	2
Trifolium incarnatum	0
Trifolium sp.	2
Vicia sp.	3

Statistics	
Vegetative Cover:	75%
Prevalence Index:	2.58
CRAM RIchness:	3
CRAM Cover:	46.64%
% CVVP Species:	21.43%
CVVP Cover:	46.64%
Species Richness:	14
Native Species:	6
Non-Native Species:	8
Non-Native Cover:	47.14%

Wetland: VP-147

Species	Cover Class
Briza minor	2
Eleocharis acicularis	3
Eleocharis macrostachya	4
Festuca perennis	2
Leontodon saxatilis	1
Mentha sp.	2
Rumex crispus	3

Statistics	
Vegetative Cover:	100%
Prevalence Index:	1.70
CRAM RIchness:	1
CRAM Cover:	33.60%
% CVVP Species:	28.57%
CVVP Cover:	53.70%
Species Richness:	7
Native Species:	2
Non-Native Species:	5
Non-Native Cover:	46.30%

Wetland: VP-207

Species	Cover Class
Aira caryophyllea	2
Briza minor	1
Bromus diandrus	1
Eleocharis macrostachya	3
Elymus caput-medusae	2
Erodium sp.	3
Eryngium vaseyi	2
Festuca bromoides	1
Hordeum marinum	2
Leontodon saxatilis	3
Lythrum hyssopifolia	1
Vicia sp.	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	3.46
CRAM RIchness:	2
CRAM Cover:	28.01%
% CVVP Species:	16.67%
CVVP Cover:	28.01%
Species Richness:	12
Native Species:	3
Non-Native Species:	9
Non-Native Cover:	52.09%

Wetland: VP-209

Species	Cover Class
Aira caryophyllea	4
Bromus hordeaceus	1
Elymus caput-medusae	1
Eryngium vaseyi	1
Festuca perennis	3
Lasthenia fremontii	2
Lathyrus angulatus	2
Leontodon saxatilis	1
Lythrum hyssopifolia	2
Medicago polymorpha	1
Rumex crispus	1

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.74
CRAM RIchness:	2
CRAM Cover:	11.14%
% CVVP Species:	18.18%
CVVP Cover:	11.14%
Species Richness:	11
Native Species:	2
Non-Native Species:	9
Non-Native Cover:	88.86%

Wetland: VP-214

Species	Cover Class
Avena sp.	2
Briza minor	1
Bromus hordeaceus	3
Elymus caput-medusae	3
Festuca bromoides	2
Festuca perennis	2
Holocarpha virgata	1
Leontodon saxatilis	1
Lupinus bicolor	1
Lythrum hyssopifolia	2
Trifolium dubium	3
Trifolium hirtum	1

Statistics	
Vegetative Cover:	90%
Prevalence Index:	3.89
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	0.00%
CVVP Cover:	0.00%
Species Richness:	12
Native Species:	2
Non-Native Species:	10
Non-Native Cover:	96.86%

Wetland: VP-224

Species	Cover Class
Aira caryophyllea	2
Bromus hordeaceus	2
Convolvulus arvensis	1
Elymus caput-medusae	2
Festuca bromoides	2
Festuca perennis	2
Holocarpha virgata	1
Hordeum marinum	3
Hordeum murinum	2
Lasthenia fremontii	2
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Rumex crispus	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	3.38
CRAM RIchness:	1
CRAM Cover:	8.31%
% CVVP Species:	7.69%
CVVP Cover:	8.31%
Species Richness:	13
Native Species:	2
Non-Native Species:	11
Non-Native Cover:	90.08%

Wetland: VP-231

Species	Cover Class
Aira caryophyllea	2
Avena sp.	2
Briza minor	2
Bromus hordeaceus	2
Elymus caput-medusae	2
Erodium botrys	3
Eryngium vaseyi	2
Festuca bromoides	2
Festuca perennis	2
Holocarpha virgata	1
Hordeum marinum	2
Lasthenia glaberrima	2
Leontodon saxatilis	2
Medicago polymorpha	2
Rumex crispus	1
Trifolium hirtum	2
Vicia sp.	2

Statistics	
Vegetative Cover:	60%
Prevalence Index:	3.84
CRAM RIchness:	2
CRAM Cover:	11.88%
% CVVP Species:	11.76%
CVVP Cover:	11.88%
Species Richness:	17
Native Species:	3
Non-Native Species:	14
Non-Native Cover:	86.97%

Wetland: VP-232

Species	Cover Class
Cyperus eragrostis	2
Elymus caput-medusae	2
Eryngium vaseyi	3
Festuca perennis	2
Juncus effusus	2
Leontodon saxatilis	2
Mentha pulegium	2
Mentha sp.	3
Rumex crispus	3
Vicia sp.	1

Statistics	
Vegetative Cover:	65%
Prevalence Index:	2.16
CRAM RIchness:	1
CRAM Cover:	18.10%
% CVVP Species:	10.00%
CVVP Cover:	18.10%
Species Richness:	10
Native Species:	4
Non-Native Species:	6
Non-Native Cover:	59.76%

Wetland: VP-235

Species	Cover Class
Avena sp.	1
Bromus diandrus	3
Bromus hordeaceus	2
Eleocharis acicularis	2
Erodium botrys	3
Eryngium vaseyi	2
Festuca bromoides	2
Festuca perennis	2
Holocarpha virgata	1
Hordeum marinum	2
Leontodon saxatilis	4
Lythrum hyssopifolia	1

Statistics	
Vegetative Cover:	85%
Prevalence Index:	3.80
CRAM RIchness:	1
CRAM Cover:	6.42%
% CVVP Species:	16.67%
CVVP Cover:	12.84%
Species Richness:	12
Native Species:	3
Non-Native Species:	9
Non-Native Cover:	85.92%

Wetland: VP-236

Species	Cover Class
Aira caryophyllea	2
Crassula aquatica	2
Elymus caput-medusae	2
Erodium botrys	3
Festuca bromoides	2
Holocarpha virgata	1
Hordeum marinum	2
Lathyrus angulatus	1
Leontodon saxatilis	4
Lythrum hyssopifolia	2
Ranunculus bonariensis	2
Trifolium hirtum	2

Statistics	
Vegetative Cover:	70%
Prevalence Index:	3.65
CRAM RIchness:	2
CRAM Cover:	13.39%
% CVVP Species:	16.67%
CVVP Cover:	13.39%
Species Richness:	12
Native Species:	3
Non-Native Species:	9
Non-Native Cover:	85.31%

Wetland: VP-241

Species	Cover Class
Briza minor	1
Elymus caput-medusae	2
Erodium botrys	3
Festuca perennis	2
Holocarpha virgata	2
Hordeum marinum	1
Leontodon saxatilis	3
Lythrum hyssopifolia	2
Trifolium hirtum	2
Vicia sp.	1

Statistics	
Vegetative Cover:	75%
Prevalence Index:	4.20
CRAM RIchness:	0
CRAM Cover:	0.00%
% CVVP Species:	0.00%
CVVP Cover:	0.00%
Species Richness:	10
Native Species:	1
Non-Native Species:	9
Non-Native Cover:	90.46%

Wetland: VP-247

Species	Cover Class
Bromus hordeaceus	1
Eleocharis macrostachya	2
Eryngium vaseyi	2
Festuca perennis	1
Hordeum marinum	4
Hordeum murinum	3
Leontodon saxatilis	2
Lythrum hyssopifolia	2
Plagiobothrys stipitatus	3
Ranunculus bonariensis	2
Rumex crispus	2
Triteleia hyacinthina	1

Statistics	
Vegetative Cover:	80%
Prevalence Index:	2.61
CRAM RIchness:	4
CRAM Cover:	34.99%
% CVVP Species:	41.67%
CVVP Cover:	36.23%
Species Richness:	12
Native Species:	5
Non-Native Species:	7
Non-Native Cover:	63.77%

Wetland: VP-264

Species	Cover Class
Avena sp.	0
Bromus hordeaceus	2
Convolvulus arvensis	2
Elymus caput-medusae	2
Erodium botrys	3
Eryngium vaseyi	1
Hordeum murinum	3
Juncus sp.	2
Leontodon saxatilis	3
Lupinus bicolor	0
Medicago polymorpha	0
Trifolium hirtum	2
Vicia sp.	2

Statistics	
Vegetative Cover:	90%
Prevalence Index:	4.48
CRAM RIchness:	1
CRAM Cover:	1.42%
% CVVP Species:	7.69%
CVVP Cover:	1.42%
Species Richness:	13
Native Species:	3
Non-Native Species:	10
Non-Native Cover:	91.02%

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Attachment C

Representative Site Photos - Floristic Motoring

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Vernal pool #70 on Orchard Creek. Dominant plants species include medusahead and coyote thistle.

Vernal pool #311 on Placer Creek Corporate Center (PCCC-2). Dominant plant includes coyote thistle.

Vernal pool #19 on Stanford Ranch (SR-8). Preserve subsection was grazed prior to floristic monitoring.

Vernal pool #176 on Stanford Ranch (SR-12). Preserve subsection was grazed prior to floristic monitoring.

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Attachment D

Regionally Occurring Listed and Special-Status Species

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Attachment D
Regionally Occurring Listed and Special-Status Species

Table 1 — Legally Protected Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Boggs Lake hedge-hyssop *Gratiola heterosepala*	--; CE; --; 1B	Annual herb found on clay soils in vernal pools and swamps, occasionally along lake margins, from 10 to 2,375 meters.	Blooming period: April – August	**Potential.** The Preserve provides suitable habitat for this species within the vernal pool habitat within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), and Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are three CNDDB records for this species within five miles of the Preserve (CDFW 2020).
Sacramento Orcutt grass *Orcuttia viscida*	FE; CE; --; 1B.1	Annual herb found in vernal pools from 30 - 100 meters.	Blooming period: April – July (Sept.)	**Potential.** This species grows in deep vernal pools that remain flooded for relatively long periods of time. It is associated with ancient alluvial soils, such as prehistoric floodplains. (Natomas Basin Habitat Conservation Plan 2020). Although the Preserve contains numerous vernal pools within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections, few provide the depth and soils this species requires. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Invertebrates				
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT; --; --; --	Associated with elderberry shrubs (*Sambucus* sp.) often within riparian habitats. Presence can be indicated by bore-holes in stems of elderberries.	March – June (Adults) Year – round (Larvae)	**Potential.** Elderberry shrubs are located throughout the Preserves within Brighton (B -1), Garnet Creek (GR-1) and Stanford Ranch (SR -1, 12, 13, and 15) subsections, providing habitat for this species. Evidence, in the form of potential exit holes, have been observed on shrubs within Stanford Ranch (SR-15) subsection. Exit holes were seen on May 28, 2020, by HELIX biologists while conducting annual surveys. There are nine CNDDB records for this species within five miles of the Preserve (CDFW 2020).
Vernal pool fairy shrimp *Branchinecta lynchi*	FT; --; --; --	Inhabits vernal pools, swales, and ephemeral freshwater habitat. Known from Alameda, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kings, Madera, Merced, Monterey, Napa, Placer, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, and Yuba counties.	USFWS protocol-level wet-season sampling and/or dry season cyst identification	**Present.** The Preserve provides suitable habitat for this species within the vernal pool habitat located in Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR-8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Most recent occurrences were noted within Stanford Ranch and Sunset West subsections (HELIX 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Conservancy fairy shrimp *Branchinecta conservatio*	FE; --; --; --	Inhabits vernal pools, swales, and ephemeral freshwater habitat. Known from Butte, Tehama, Glenn, Yolo, Solano, Stanislaus, Merced, and Ventura counties.	USFWS protocol-level wet-season sampling and/or dry season cyst identification	**None.** Although the Preserve contains vernal pool habitat, the Preserve is outside of the known geographical range of this species. Currently known from eight disjunct localities in California, including Butte and Tehama counties, in one large playa pool at the Sacramento National Wildlife Refuge in Glenn County, in one vernal pool in western Placer County at the Mariner Conservation Bank, in one playa pool at the Glide Tule Elk Reserve in Yolo County, at Jepson prairie and surrounding areas in Solano County, and in Eastern and Western Merced County (Helm 1998).
Vernal pool tadpole shrimp *Lepidurus packardi*	FE; --; --; --	Inhabits vernal pools, swales, and ephemeral freshwater habitat. Known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Fresno, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**Potential.** The Preserve contains suitable vernal pool and ephemeral freshwater habitat for this species within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are two CNDDB record for this species within five miles of the Preserve (CDFW 2020).
Fish				
Delta smelt *Hypomesus transpacificus*	FT; CE; --; --	Found in open waters of bays, tidal rivers, channels, and sloughs.	Year – Round	**None.** The Preserve does not contain suitable habitat to support this species (i.e., open waters of bays, tidal rivers, channels, and sloughs).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus*	FT; --; --; --	Found in the ocean, rivers, creeks, and large inland lakes. This distinct population only occurs in the Sacramento and San Joaquin Rivers and their tributaries.	Year – Round	**Potential.** Secret Ravine and its tributaries provide suitable spawning habitat for this species. There are two CNDDB record for this species within five miles of Preserve (CDFW 2020).
Amphibians/Reptiles				
California red-legged frog *Rana draytonii*	FT; CSC; --; --	Found near quiet, permanent pools of streams, marshes, and ponds with extensive vegetation below 1200 meters. Typically occurs in humid forests, woodlands, grassland, and foothill habitats. Adults may disperse considerable distances between pools during rain events. Breeds in permanent pools from January through July.	Year – Round	**None.** This species is generally considered extirpated from the Central Valley.
Giant garter snake *Thamnophis gigas*	FT; CT--; --	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands in Sacramento, Sutter, Butte, Colusa, and Glenn counties.	Active outside of dormancy period November-mid March	**None.** The Preserve is outside of the current known range of the species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD; CE; --; --	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Year - round	**Potential.** Although the Preserve does not contain suitable breeding habitat for this species (i.e., within 4.0 kilometers (2.5 miles) of coastal areas, bays, rivers, lakes, and reservoirs). The species has the potential to be observed flying over or perching in trees within the Preserve.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Bank swallow *Riparia riparia*	--; CT; --; -- Nesting	Colonial breeder found in open and partly open situations, frequently near flowing water. Nests on steep sand, dirt, or gravel banks, in burrows dug near the top of the bank, along the edge of inland water, or along the coast, or in gravel pits or road embankments.	February – October	**Potential.** Some Preserve subsections within Whitney Ranch WR-1), and Stanford Ranch (SR- 8 and 13) contain steep banks along creeks and drainages that may provide habitat for this species.
California black rail *Laterallus jamaicensis coturniculus*	--; CT; --; --	Saltwater, brackish, and freshwater marshes. Does not occur in wetland areas with annual fluctuations in water level and need a permanent water source of at least 1 inch in depth.	Year – round	**Potential.** Wetlands located throughout the Preserve subsections within Claremont, Garnet Creek, Sandford Ranch, Sunset West, and Whitney Ranch contain suitable habitat for this species. There is one CNDDB record for this species within five miles of Preserve (CDFW 2020).
Golden eagle *Aquila chrysaetos*	--; CFP; --; --	Open and semi-open areas in the mountains up to 12,000 feet in elevation. They are also found in canyon lands, rimrock, terrain, and riverside cliffs and bluffs. Nest are built on cliffs and steep escarpments in grassland, in trees, chaparral, shrubland, forests and man-made structures within vegetated areas.	Year - round	**Potential.** Although the Preserve does not contain suitable nesting habitat (i.e. canyon lands, rimrock, terrain, and riverside cliffs and bluffs). The Preserve provides suitable forging habitat. The species has the potential to be observed flying over or perching in trees within the Preserve.
Swainson's hawk *Buteo swainsoni*	--; CT; --; --	Nest peripherally in valley riparian systems, lone trees, or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley.	Breeding: March – October	**Present.** This species has been observed foraging in Orchard Creek and Placer Creek Corporate Center subsections of the Preserve (PCCC 1-5) (HELIX 2019). There are five CNDDB record for this species within five miles of the Preserve (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Tricolored blackbird *Agelaius tricolor*	BCC; CCE; CSA; --	Nests in colonies near fresh water, usually within emergent wetland habitat with tall, dense cattails, tule, willow, blackberry, wild rose, and other marshy vegetation. Forages in open grassland, wetland, and agricultural habitats.	Year – Round	**Present.** This species has been observed nesting in Whitney Ranch (WR-1) and foraging in Orchard Creek and Whitney Ranch (WR-2) (HELIX 2019). There are ten CNDDB record for this species within five miles of the Preserve (CDFW 2020).
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT; CE; --; --	Found in woodlands, thickets, orchards, and streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, and scrubby oak woodlands. Often found in willow groves around marshes. In the west, mostly in streamside trees, including cottonwood-willow groves in arid country.	Breeding: Late Spring – Early Fall	**None.** Although the Preserve contains some riparian habitat, this species requires large blocks for nesting. Along the Sacramento River, nesting yellow-billed cuckoos occupied home ranges which included 25 acres (10 hectares) or more of riparian habitat. Another study on the same river found riparian patches with yellow-billed cuckoo pairs to average 99 acres (40 hectares). Home ranges in the South Fork of the Kern River averaged about 42 acres (17 hectares) (CDFW 2017).

Table 1 includes federal threatened or endangered species and eagles, and State threatened, endangered, or fully protected species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Table 2 — Species Subject to CEQA Review

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	--; --; --; 1B	Annual herb found in mesic areas in valley and foothill grasslands from 30 to 229 meters.	Blooming period: March – May	**Potential.** The Preserve provides suitable habitat for this species within the vernal pool habitat within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), and Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	--; --; --; 1B.2	Perennial herb found in chaparral, cismontane woodland, valley and foothill grasses, and sometimes in serpentinite soils.	Blooming period: March - June	**Potential.** The Preserve contains suitable grassland and woodland habitat for this species throughout the Preserves within Brighton, Clermont, Garnet Creek, Orchard Creek, Parklands North, Placer Creek Corporate Center, Stanford Ranch, Sunset West, and Whitney Ranch. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are two CNDDB records for this species within five miles of the Study Area (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Dwarf downingia *Downingia pusilla*	--; --; --; 2B.2	An annual herb found in mesic areas within valley and foothill grassland and vernal pool habitats from 1 to 445 meters.	Blooming period: March – May	**Potential.** The Preserve contains suitable vernal pool and grassland habitat for this species within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are sixteen CNDDB records for this species within five miles of the Study Area (CDFW 2020).
Hispid salty bird's-beak *Chloropyron mole* ssp. *hispidum*	--; --; --; 1B	Annual hemiparasite herb found on alkaline soil in meadows and seeps, playas, valley and foothill grasslands, from 1-155 meters.	Blooming period: June – September	**Present.** This species has been found within Stanford Ranch (SR-12) subsection within the alkali sink (Foothill Associates 2018). Verification of the hispid bird' s-beak populations took place during the 2018-2019 survey season (HELIX 2019).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Legenere *Legenere limosa*	--; --; --; 1B.1	Annual herb found in vernal pools from 1 to 880 meters.	Blooming period: April – June.	**Potential.** The Preserve contains suitable vernal pool habitat for this species within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are four CNDDB records for this species within five miles of the Study Area (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Pincushion navarretia *Navarretia myersii* ssp. *myersii*	--; --; --; 1B.1	Annual herb often found in acidic soils within vernal pools from 20 to 330 meters.	Blooming period: April – May	**Potential.** The Preserve contains suitable vernal pool habitat for this species within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There is one CNDDB records for this species within five miles of the Study Area (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Red Bluff dwarf rush *Juncus leiospermus*	--; --; --; 1B.1	Annual herb in vernally moist chaparral, cismontane woodlands, meadows and seeps, valley and foothill grasslands, and vernal pools from 35-1,250 meters.	Blooming period: March – June	**Potential.** The Preserve contains suitable vernal pool and annual grassland habitat for this species within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There is one CNDDB record for this species within five miles of the Study Area (CDFW 2020).
Sanford's arrowhead *Sagittaria sanfordii*	--; --; --; 1B.2	Perennial rhizomatous herb found in assorted shallow freshwater wetlands, marshes, and swamps from 0 to 650 meters.	Blooming period: May – October	**Potential**. The seasonal wetlands located throughout the Preserve provide suitable habitat for this species. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appendices Preserve subsections may contain potential habitat for this species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Invertebrates				
California linderiella *Linderiella occidentalis*	--; CSA; --; --	Found in most landforms, geologic formations and soil types supporting vernal pools in California. They are typically found in deeper vernal pools throughout elevations ranging from 10 to 1,159 meters.	USFWS protocol-level wet-season sampling and/or dry season cyst identification.	**Present.** The Preserve provides suitable habitat for this species within the vernal pool habitat located within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Most recent occurrences were noted within Stanford Ranch and Sunset West subsections (HELIX 2020).
Amphibians/Reptiles				
Western pond turtle *Emys marmorata*	--; CSA; --; --	Occurs in a variety of aquatic habitats such as ponds, creeks, ditches, lakes, and marshes. Prefers areas with abundant vegetation and rocky or muddy substrate. Exposed banks or other basking areas such as logs or cattail mats are required. Upland habitat typically occurs within woodlands, forests, or grasslands, within the vicinity of aquatic habitat.	Year – Round	**Present.** The Preserve provides suitable aquatic and upland habitat for this species. This species was observed in numerous subsections within Stanford Ranch and Sunset West (HELIX 2019).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Western spadefoot *Spea hammondii*	--; CSC; --; --	Found in a variety of upland habitats, including lowlands, foothills, grasslands, open chaparral, and pine-oak woodlands. Habitat preferences include shortgrass plains, and sandy or gravelly soils for burrowing (e.g., alkali flats, washes, alluvial fans). Hibernates/aestivates for most of the year underground. During the breeding season are found in temporary rain pools, and slow-moving streams (e.g., areas flooded by intermittent streams).	Breeding: January – May	**Potential**. The annual grassland and vernal pools located within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. There are ten CNDDB record for this species within five miles of the Study Area (CDFW 2020).
Birds				
Burrowing owl *Athene cunicularia*	BCC; CSC; --; -- (burrowing sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.	Year – round	**Potential.** The annual grassland and ground squirrel burrows located throughout the Preserve provides suitable habitat for this species. Surveys have been conducted for this species between 2015-2020. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appendices Preserve subsections may contain potential habitat for this species. There are two CNDDB record for this species within five miles of the Study Area (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
California thrasher *Toxostoma redivivum*	BCC--; --; --; --	Found in shrubby habitat found only in California and a small part of Baja California. This plant community features shrubs and small trees, most below about 4 meters (13 feet tall). Key plants include chaparral whitethorn, buckbrush, ceanothus, chamise, toyon, coffeeberry, sugarbush, laurel sumac, holly-leaved cherry, lemonade berry, manzanita, and mountain mahogany. Nests are built about 2 meters (7 feet) above the ground in dense shrubbery. Both male and female construct the nest, a bulky platform of twigs that is lined with roots, stems, bark, forbs, and weeds. Forage by sweeping the bill through the leaf litter and looking for prey.	Year – round	**Potential.** The understory of the oak woodland and surrounding shrubs within the Preserve subsections within Brighton (B -1), Clermont (C-1 – 5), Garnet Creek (GC -1), Parklands North (PN -1), Stanford Ranch (SR 1-3, 5, 8, 9, and 11), Sunset West (SW – 5 and 6), and Whitney Ranch (WR- 1 and 3-8) provide nesting and foraging habitat for this species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Clark's Grebe *Aechmophorus clarkii*	BCC--; --; --; --	Winter mostly on saltwater bays. During the breeding season they prefer freshwater wetlands with a mix of open water and emergent vegetation. Breeding areas are located in the central arid steppe and Big Sage/Fescue zones that stretch from California north and east to south-central Canada. Both the male and female build a floating nest made from a heap of plant material anchored to emergent vegetation in a shallow area of a marsh. The female lays three to four eggs, and both parents incubate. Once hatched, the young leave the nest almost immediately and ride on the backs of the parents. Both parents feed the young.	Breeding	**Potential.** The Preserve provides suitable nesting and foraging habits for this species within portions Clermont, Garnet Creek, Parklands North, Stanford Ranch, Sunset West, and Whitney Ranch Preserve subsections.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Common Yellowthroat *Geothlypis trichas sinuosa*	BCC--; --; --; --	Found in thick, tangled vegetation in a wide range of habitat from wetlands to prairies to pine forests across North America. Their breeding range stretches across most of the United States, the Canadian provinces, and western Mexico. Most common in wet areas, which tend to have dense vegetation low to the ground, ideal for skulking and building hidden nests. But they are also found in dry upland pine forests, palmetto thickets, drainage ditches, hedgerows, orchards, fields, burned-over oak forests, shrub-covered hillsides, river edges, and disturbed sites. They winter in similar habitats with dense vegetation in the southern United States, Mexico, Central America, and the Caribbean. The female selects a nest site, which is usually on or near the ground and supported by sedges, grasses, reeds, cattails, briars, skunk cabbage, or other low plants.	Breeding	**Potential.** The Preserve provides suitable nesting and foraging habits for this species within portions Clermont, Garnet Creek, Parklands North, Stanford Ranch, Sunset West, and Whitney Ranch Preserve subsections.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Cooper's hawk *Accipiter cooperii*	--; --; --; WL	Nests in woodlands and urban trees. Preys on medium-sized birds and small mammals. Forages in open woodland and habitat edges.	Year – Round	**Present.** The oak woodland within the Preserve subsections within Brighton (B -1), Clermont (C-1 – 5), Garnet Creek (GC -1), Parklands North (PN -1), Stanford Ranch (SR 1-3, 5, 8, 9, and 11), Sunset West (SW – 5 and 6), and Whitney Ranch (WR- 1 and 3-8) provide nesting habitat for this species and surrounds annual grassland provide foraging habitat. This species was observed in Claremont (C-4) in 2017 (Foothill Associates 2017).
Double-crested cormorant *Phalacrocorax auritus*	--; --; --; WL	Coasts, bays, lakes, rivers. Very adaptable, may be found in almost any aquatic habitat, from rocky northern coasts to mangrove swamps to large reservoirs to small inland ponds. Nests in trees near or over water, on sea cliffs, or on ground on islands.	Year - round	**Potential.** The Preserve provides suitable nesting and foraging habits for this species within portions Clermont, Garnet Creek, Parklands North, Stanford Ranch, Sunset West, and Whitney Ranch Preserve subsections.
Grasshopper sparrow *Ammodramus savannarum*	--; CSC; --; --	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass. This species is known from Los Angeles, Mendocino, Orange, Placer, Sacramento, San Diego, San Luis Obispo, Solano, and Yuba counties, in California.	Breeding: April – July	**Potential.** The Preserve provides suitable nesting habits for this species within the annual grasslands located throughout the Preserves.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Great blue heron *Ardea herodias*	--; CSA; --; --	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	Year – round	**Present.** The Preserve provides suitable nesting and foraging habitat for this species. This species has been observed forging within Stanford Ranch, Sunset West, and Whitney Ranch subsections (HELIX 2019). To date, no rookery sites have been observed.
Great egret *Ardea alba*	--; CSA; --; --	Found in marshes, swampy woods, tidal estuaries, lagoons, mangroves, streams, lakes, ponds, fields, and meadows. Nests primarily in tall trees, or in woods or thickets near water.	Year – round	**Present.** The Preserve provides suitable nesting and foraging habitat for this species. This species has been observed forging within Claremont, Orchard Creek, Stanford Ranch, Sunset West, and Whitney Ranch subsections (HELIX 2019). To date, no rookery sites have been observed.
Lawrence's goldfinch *Spinus lawrencei*	BCC; --; --; --	Typical habitats include valley foothill hardwood, valley foothill hardwood-conifer, and, in southern California, desert riparian, palm oasis, pinyon-juniper, and lower montane habitats. Winters erratically in southern coastal lowlands and Colorado River Valley.	Breeding: March – September	**Potential.** The oak woodland and riparian habitat located throughout Preserve provide suitable foraging and nesting habitat for this species.
Lewis's woodpecker *Melanerpes lewis*	BCC; --; --; --	Found in open forest and woodland, often logged or burned, including oak, coniferous forest (primarily ponderosa pine), riparian woodland (dominated by cottonwood), orchards, and less commonly in pinyon-juniper habitat. In winter uses oak woodlands, nut, and fruit orchards. Nests in natural tree cavities, abandoned northern flicker holes or previously used cavities.	Year - round	**None.** This species inhabits transitional habitats between oak and coniferous forests at higher elevations than the Preserve.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Long-billed curlew *Numenius americanus*	BCC; --; --; --	Nests in low-growing vegetation (4-8" high), including shortgrass and mixed grass prairies and agricultural fields. In the winter, they migrate to the coast where they inhabit wetlands, tidal estuaries, mudflats, flooded fields, and occasionally beaches.	Breeding: Summer	**None.** The Preserve is outside of known range of this species. Summer breeding populations occur in the Siskiyou and Lassen Counties in northeastern California. Winter transients occur in the Central and Imperial Valleys (Zeiner et al 1990).
Marbled godwit *Limosa fedoa*	BCC; --; --; --	Large shorebird that breeds in the prairie pothole region of the northern United States and southern Canada. It winters in North, Central, and South America, mainly in coastal areas. During the breeding season, marbled godwits prefer native grasslands with short vegetation adjacent to a variety of ephemeral and semi-permanent wetlands (Ryan et al. 1984; Gratto-Trevor 2000) On the wintering grounds, Marbled Godwits forage and rest along coastal mudflats, estuaries, and sandy beaches.	Winter	**None.** The Preserve is outside of known range of this species.
Merlin *Falco columbarius*	--; --; --; WL	An uncommon winter migrant in California; breeds in Alaska and Canada. Uses a variety of habitats but requires trees close to water for cover and is usually found near coastlines, lakeshores, and wetlands.	Winter	**Potential.** The annual grassland located throughout the Preserve provides suitable winter foraging habitat.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Nuttall's woodpecker *Picoides nuttallii*	BCC; --; --; --	Found primarily in oak woodlands and in riparian woods; rarely in conifer.	Year- round	**Potential**. The oak woodland and riparian habitat located within Brighton (B-1), Clermont (C-1-5), Garnet Creek (GC-1), Parklands North (PN-1), Stanford Ranch (SR 1-21), Sunset West (SW 1-6 and 8), and Whitney Ranch (WR-1, 3-6) Preserve subsections provide suitable foraging and nesting habitat for this species.
Oak titmouse *Baeolophus inornatus*	BCC; --; --; --	Found in oak and pine-oak woodland, arborescent chaparral, and oak-riparian associations. Nests are constructed in natural tree cavities, in woodpecker holes or bird boxes approximately 1 to 11 meters above ground.	Year - round	**Present.** The oak woodland and riparian habitat located throughout the Preserve provide suitable foraging and nesting habitat for this species. This species has been observed within the oak woodlands within Stanford Ranch, Sunset West, and Whitney Ranch subsections (HELIX 2019).
Osprey *Pandion haliaetus*	--; --; --; WL	Rivers, lakes, coast. Found near water, either fresh or salt, where large numbers of fish are present. May be most common around major coastal estuaries and salt marshes, but also regular around large lakes, reservoirs, rivers. Migrating Ospreys are sometimes seen far from water, even over the desert.	Breeding: Spring	**Potential.** The Preserve provides nesting and marginal foraging habitat for this species within the annual grassland, riparian and oak woodland habitat located throughout the Preserve. The Preserve lacks areas where the species can hunt for large numbers of fish (i.e. coastal estuaries, large lakes, and rives). There is one CNDDB occurrence documented within five miles of the Preserve (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Purple martin *Progne subis*	--; CSC; --; --	Nests in wide variety of open and partly open habitats that are often near water or around towns. Nests in tree cavities, abandoned woodpecker holes, crevices in rocks, and sometimes in bird houses or gourds put up by humans.	Breeding: Summer	**Potential.** The Preserve provides suitable nesting and foraging habitat for this species within the annual grassland, riparian, and oak woodland habitat throughout the entirety of the Preserve. There is one CNDDB occurrence documented within five miles of the Preserve (CDFW 2020).
Rufous hummingbird *Selasphorus rufus*	BCC; --; --; --	Long-distance migrant traveling nearly 4,000 miles from breeding grounds in Alaska and northwest Canada to wintering sites in Mexico. They travel north up the Pacific Coast in spring and return by the Rocky Mountains in late summer and fall. Feed primarily on nectar from colorful, tubular flowers including columbine, scarlet gilia, penstemon, Indian paintbrush, mints, lilies, fireweeds, larkspurs, currants, and heaths. Also get protein and fat from eating insects, particularly gnats, midges, and flies taken from the air, and aphids taken from plants.	Migration: Spring	**Potential.** The Preserve provides situatable forging habitat throughout the Preserve.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Short-billed dowitcher *Limnodromus griseus*	BCC; --; --; --	Found in small lakes, and in manmade environments such as impoundments, sewage ponds, and flooded farm fields as well as in muddy margins of rivers, lakes, and bays. Migrants also rest on rocky and sandy shorelines and occasionally feed in such places, but they forage mostly where there is a fine muddy bottom covered by a few inches of water.	Year- round	**None.** The Preserve does not provide habitat for this species.
Song sparrow ("Modesto" population) *Melospiza melodia*	BCC; CSC; --; --	Found in thickets, brush, marshes, roadsides, gardens. Habitat varies over its wide range. In most areas, found in brushy fields, stream sides, shrubby marsh edges, woodland edges, hedgerows, well-vegetated gardens. Some coastal populations live in salt marshes. Nests in dense streamside brush in southwestern deserts, and in any kind of dense low cover on Aleutian Islands, Alaska.	Year - round	**Potential**. The Preserve provides suitable nesting and foraging habitat for this species within the annual grassland, riparian, and oak woodland habitat throughout the entirety of the Preserve.
Spotted towhee *Pipilo maculatus*	BCC; --; --; --	Found in thickets, forest edges, old fields, shrubby backyards, chaparral, coulees, and canyon bottoms, places with dense shrub cover and plenty of leaf litter for the towhees to scratch around in. Nests either on the ground or near it (though occasionally up to 12 feet high). They often choose fairly exposed areas over sites deep inside a thicket, but within these areas they find a clump of grass, a log, or the base of a shrub to conceal their nests against.	Year - round	**Present**. The Preserve provides suitable nesting and foraging habitat for this species within the annual grassland, riparian, and oak woodland habitat throughout Preserve. This species has been observed within the riparian woodland within Sandford Ranch (SR-15) and Whitney Ranch (WR-1) while conducting annual surveys (Foothill Associates 2016) and (Helix 2019).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Whimbrel *Numenius phaeopus*	BCC; --; --; --	Found in saltmarshes, lagoons, estuaries, and on reefs and rocky shorelines where small crabs are available. Nests are built on raised sites such as a hummock or small ridge, usually near a shrub to offer shelter from wind; such sites are drier than surrounding areas and usually have better visibility.	Winter	**None.** The Preserve does not provide habitat for this species.
Willet *Tringa semipalmata*	BCC; --; --; --	Found in open beaches, bayshores, marshes, mudflats, and rocky coastal zones. Nest on the ground along pond edges and other seasonal wetlands, or on raised sites near water.	Winter	**None.** The Preserve does not provide habitat for this species.
White-tailed kite *Elanus leucurus*	--; CFP; --; -- (nesting)	Inhabits savanna, open woodlands, marshes, desert grassland, partially cleared lands and cultivated fields. Nests in trees, often near a marsh in savanna, open woodland, partially cleared lands, and cultivated fields. Foraging occurs within ungrazed or lightly grazed fields and pastures.	Year - round	**Present.** This species has been observed foraging in the Placer Creek Corporate Center subsection (PCCC 1-5) (HELIX 2019). There is one CNDDB occurrence documented within five miles of the Preserve (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Wrentit *Chamaea fasciata*	BCC; --; --; --	Found in coastally scrub and chaparral including suburban yards and parks with shrubs. Away from the coast they live in thickets along creeks, oak woodlands, mixed-evergreen forests, and dense shrublands with coyotebush, manzanita, California lilac, or blackberry. Wrentits build nests in many plants including California sage, coyotebush, blackberry, poison oak, coffeeberry, Douglas-fir, bush lupine, wild rose, valley oak, and wild grape. Nests are well hidden in dense vegetation anywhere from less than 1 foot to 9 feet above the ground.	Year-round	**Potential**. The Preserve provides suitable nesting and foraging habitat for this species within the annual grassland, riparian, and oak woodland habitat throughout the entirety of the Preserve.
Yellow-billed magpie *Pica nuttalli*	BCC; --; --; --	Found in open oak woodland and oak savannas. Forages and nests in agricultural areas and pastures that feature tall trees (average 47 feet) in large tress often in clumps of mistletoe.	Year - round	**Present.** The Preserve provides suitable foraging and nesting habitat for this species within the annual grassland, oak woodland, and riparian habitats. The species was observed within Stanford Ranch (SR-15) on May 28, 2020, by HELIX biologists while conducting annual surveys.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Mammals				
American badger *Taxidea taxus*	--; CSC; --; --	Inhabits drier open stages of most shrub, forest, and herbaceous habitats with loose, friable soils. Preys on a wide variety of mammals, reptiles, birds, and carrion, and hunts mostly by digging out fossorial prey. Occasionally takes prey on the surface. Not tolerant of cultivation. No longer occur in the Central Valley except in the extreme western edge.	Year - round	**Potential.** The annual grassland, oak woodland, and riparian habitats located throughout the Preserve provide habit for this species.
Pallid bat *Antrozous pallidus*	--; CSC; --; --	Found in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forest habitats. Roosts in colonies usually in rock crevices, caves, mines, hollow trees, and buildings.	March – October	**Potential.** The Preserve provides suitable roosting habitat for this species within the oak woodland and portions of wooded riparian habitats located in Brighton (B -1), Clermont (C-1-5), Garnet Creek (GC-1), Parklands North (PN-1), Stanford Ranch (SR- 1-9 and 11-21), Sunset West (SW 1-6), and Whitney Ranch (WR- 1 -6) Preserve subsections. However, the Preserve lacks caves or mines that this species often utilizes.
Silver-haired bat *Lasionycteris noctivagans*	--; --; --; WL	Widely distributed throughout the United States. This species is insectivorous and catches their prey in mid-air. Maternity roosts are in tree cavities or small hollow. This species is typically found in forested areas.	Year - round	**Potential.** The Preserve provides suitable roosting habitat for this species within the oak woodland and portions of wooded riparian habitats located in Brighton (B -1), Clermont (C-1-5), Garnet Creek (GC-1), Parklands North (PN-1), Stanford Ranch (SR- 1-9 and 11-21), Sunset West (SW 1-6), and Whitney Ranch (WR- 1 -6) Preserve subsections. However, the Preserve lacks caves or mines that this species often utilizes.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Townsend's big-eared bat *Corynorhinus townsendii*	--; CSC; --; --	Widely distributed throughout California except alpine and subalpine habitats. This species eats moths, beetle, and other insects which it catches on the wing or by gleaning from vegetation. Typically found near water since it is poor at concentrating its urine. This species uses caves, mines, tunnels, buildings, and human made structures for roosting. Maternity roosts are typically in warm sites. Hibernation sites are typically cold, but not freezing. This species is very sensitive to disturbance and may abandon its roost after one visit.	Year - round	**Potential.** The Preserve provides suitable roosting habitat for this species within the oak woodland and portions of wooded riparian habitats located in Brighton (B -1), Clermont (C-1-5), Garnet Creek (GC-1), Parklands North (PN-1), Stanford Ranch (SR- 1-9 and 11-21), Sunset West (SW 1-6), and Whitney Ranch (WR- 1 -6) Preserve subsections. However, the Preserve lacks caves or mines that this species often utilizes.

Table 2 includes state and federal species of concern and Rank 1 and 2 CNPS species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Table 3 — Other Species of Interest

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Adobe navarretia *Navarretia nigelliformis*	--; --; --; 4.2	Annual herb found on clay and sometimes serpentinite soils in foothill grasslands and sometimes in vernal pools from 100 to 1,000 meters.	Blooming period: April-June	**None.** Although the Preserve contains vernal pools, the Preserve is outside the known elevational range of this species. T
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	--; --; --; 4.2	Annual herb found in chaparral, cismontane woodland, and lower montane coniferous forest. Occurs often in roadcuts from 75 - 915 meters.	Blooming period: May – July	**Potential.** Although this Preserve contains suitable habitat within the oak woodland, much of the Preserve is outside of the known elevational range for this species. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.
Bristly leptosiphon *Leptosiphon acicularis*	--; --; --; 4.2	Annual herb found in foothill woodlands, chaparral, and coastal prairies from 0 – 700 meters.	Blooming period: April-July	**None**. The plant is endemic to northern California in the California Coast Ranges, from the San Francisco Bay Area northwards. It is a found below 700 meters.
Stinkbells *Fritillaria agrestis*	--; --; --; 4.2	Perennial bulbiferous herb found in clay soils, sometimes in serpentinite, chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland from 10 to 1,555 meters.	Blooming period: March – June	**Potential.** The Preserve provides suitable habitat for this species within the annual grasslands and oak woodlands throughout the Preserve. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species.

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Valley brodiaea *Brodiaea rosea* ssp. *vallicola*	--; --; --; 4.2	Perennial bulbiferous herb found in old alluvial terraces on silty, sandy, or gravelly loam soils within swales of valley and foothill grassland and vernal pools.	Blooming period: April – May (June)	**Potential.** The Preserve provides suitable habitat for this species within the annual grassland and vernal pool habitats located within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. Surveys have been conducted for this species between 2015-2020. To date, the species has not been observed. However, the existing or future appended Preserve subsections may contain potential habitat for this species. Although there are no CNDDB records within 5 miles of the Preserve an occurrence (UCD147856) (Calflora 2020) between Roseville and Lincoln, 200 ft east of interstate 65 was noted in 2013.
Invertebrates				
An andrenid bee *Andrena subapasta*	--; CSA; --; --	Found in grassland habitats within El Dorado, Placer, Sacramento, and San Joaquin counties. Ground nesters that will be underground from summer, fall and winter and emerge in early spring to forage and pollinate early bloomers, such as willows, maples, violets, and other early blooming wildflowers.	Spring – Fall	**Potential**. The Preserve provides suitable habitat for this species throughout its entirety. There is one CNDDB record for this species within five miles of the Study Area (CDFW 2020).

Attachment D
Regionally Occurring Listed and Special-Status Species

Special-Status Species	Regulatory Status	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	--; CSA; --; --	An endemic aquatic beetle known to occur in vernal pools that are inundated in winter and spring and dry during the summer months. Ideal habitat includes, neutral to slightly alkaline, clear, low dissolved salts, dominated with vernal pool plant species, and complex of vernal pool crustacean species. Known to occur in the Central Valley below 300 meters in elevation.	Year – round	**Potential.** The Preserve provides suitable habitat for this species within the vernal pool habitats within Orchard Creek (OC-1), Placer Creek Corporate Center (PCCC 1-5), portions of Stanford Ranch (SR 8 and 12), as well as Sunset West (SW 1-6 and 8) Preserve subsections. There is one CNDDB record for this species within five miles of the Study Area (CDFW 2020).

Table 3 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

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Attachment E

Representative Site Photos - Wetland and Riparian Monitoring

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Erosion site within Garnet Creek. Gabion basket is being undercut by creek and is slumping.

Beaver activity within Stanford Ranch (SR-21). Site did not appear to be an immediate threat to preserve or adjacent infrastructure.

Beaver activity in Pleasant Grove Creek within Stanford Ranch (SR-12). Site has since been cleared during City maintenance activities.

Rusted out culvert outlet within Stanford Ranch (SR-15). Flow emerges from underneath pipe.

Trash accumulating in creek at tree fort sites within Stanford Ranch (SR-15).

Irrigation runoff/erosion site within Stanford Ranch (SR-15) looking towards Park Drive.

Irrigation runoff/erosion site within Stanford Ranch (SR-15) looking downslope of previous photo towards creek.

Irrigation runoff/erosion site within Stanford Ranch (SR-15) slightly downslope of previous photo looking at gully near Park Drive culverted crossing.

View of quad tire ruts in creek within Sunset West (SW-1).

View of riparian vegetation removed within Sunset West (SW-1).

View of plugged culvert within Sunset West (SW-3) where a small diversion channel was dug by hand upstream.

Riparian trees felled by chainsaw within Sunset West (SW-3).

Plugging culverts within Sunset West (SW-4).

Erosion site within Sunset West (SW-4) where a gully is forming, and an armored outfall is being undermined.

Plugged culvert within Sunset West (SW-4).

Erosion sites within Sunset West (SW-4) where there are two headcuts in an ephemeral drainage.

Shopping carts in stream channel within Sunset West (SW-5).

Culvert outlet plugged with vegetation within Sunset West (SW-6).

Gullies formed within Sunset West (SW-6).

Quad ruts in seasonal wetland within Sunset West (SW-7).

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Attachment F

Plant Species Observed

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Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Brighton Preserve Area		
Acmispon americanus var. *americanus*	American bird's foot trefoil	N
Aira caryophyllea	Silver hairgrass	NN
Amaranthus californicus	California amaranth	N
Artemisia douglasiana	California mugwort	N
Artemisia dracunculus	Tarragon	N
Avena barbata	Slender oat	NN, I
Baccharis pilularis ssp. *consanguinea*	Coyote brush	N
Brassica nigra	Black mustard	NN, I
Bromus diandrus	Ripgut grass	NN, I
Bromus hordeaceus	Soft chess	NN, I
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	NN
Chondrilla juncea	Skeleton weed	NN, I
Cirsium vulgare	Bull thistle	NN, I
Cynodon dactylon	Bermuda grass	NN, I
Cyperus eragrostis	Tall flatsedge	N
Ditttrichia graveolens	Stinkwort	NN, I
Epilobium brachycarpum	Autumn willowweed	N
Epilobium ciliatum cf. ssp. *ciliatum*	Fringed willowherb	N
Erigeron canadensis	Canada horseweed	N
Euthamia occidentalis	Western goldenrod	N
Festuca perennis	Rye grass	NN, I
Heteromeles arbutifolia	Toyon	N
Heterotheca grandiflora	Telegraph weed	N
Hirschfeldia incana	Short podded mustard	NN, I
Hydrilla verticillata	Hydrilla	NN, I
Hypochaeris glabra	Smooth cat's 'ear	NN, I
Juglans hindsii	Northern california black walnut	N
Juncus effusus ssp. *pacificus*	Pacific rush	N
Lactuca serriola	Prickly lettuce	NN
Leersia oryzoides	Rice cutgrass	N
Lemna sp.	Duckweed	N
Myriophyllum aquaticum	Parrot's feather	NN
Persicaria cf. *hydropiper*	Waterpepper	NN
Polygonum aviculare ssp. *depressum*	Prostrate knotweed	NN
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Portulaca oleracea	Common purslane	NN
Pyrus calleryana	Callery pear	NN, I
Quercus douglasii	Blue oak	N
Quercus lobata	Valley oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Raphanus sativus	Cultivated radish	NN, I
Rubus armeniacus	Himalayan blackberry	NN, I
Rumex crispus	Curly dock	NN, I
Salix exigua var. *hindsiana*	Sandbar willow	N
Salix laevigata	Red willow	N
Salix lasiandra	Pacific willow	N
Salix lasiolepis	Arroyo willow	N
Schoenoplectus acutus var. *occidentalis*	Tule	N

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Torilis arvensis	Field hedge parsley	NN, I
Toxicodendron diversilobum	Poison oak	N
Trifolium hirtum	Rose clover	I
Typha sp.	Cattail	N
Verbascum blattaria	Moth mullein	NN
Garnet Creek Preserve		
Avena sp.	Oat	~
Baccharis pilularis	Coyote brush	N
Erodium botrys	Big heron bill	NN
Eschscholzia californica	California poppy	N
Galium aparine	Common bedstraw	N
Pinus sabiniana	Foothil pine	N
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Quercus douglasii	Blue oak	N
Quercus lobata	Valley oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Rubus armeniacus	Himalayan blackberry	NN,I
Rumex crispus	Curly dock	NN,I
Salix sp.	Willow	~
Typha sp.	Cattail	N
Vicia sp.	Vetch	~
Clairemont Preserve Area		
Acmispon americanus var. *americanus*	American bird's foot trefoil	N
Amaranthus californicus	California amaranth	N
Amsinckia intermedia	Common fiddleneck	N
Avena barbata	Slender oat	NN, I
Baccharis pilularis ssp. *consanguinea*	Coyote brush	N
Brassica nigra	Black mustard	NN, I
Briza minor	Little quaking grass	NN
Bromus diandrus	Ripgut grass	NN, I
Bromus hordeaceus	Soft chess	NN, I
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	NN
Centaurea solstitialis	Yellow star thistle	NN, I
Centromadia fitchii	Spikeweed	N
Cercis occidentalis	Western redbud	N
Chondrilla juncea	Skeleton weed	NN, I
Cichorium intybus	Chicory	NN
Claytonia parviflora var. *parviflora*	Miner's lettuce	N
Croton setiger	Turkey-mullein	N
Cuscuta howelliana	Boggs lake dodder	N
Cynodon dactylon	Bermuda grass	NN, I
Cyperus eragrostis	Tall cyperus	N
Deschampsia danthonioides	Annual hairgrass	N
Dichelostemma capitatum ssp. *capitatum*	Bluedicks	N
Ditttrichia graveolens	Stinkwort	NN, I
Eleocharis macrostachya	Common spikerush	N
Elymus caput-medusae	Medusahead	NN, I
Elymus cf. *ponticus*	Tall wheat grass	NN
Epilobium brachycarpum	Autumn willowweed	N
Epilobium ciliatum cf. ssp. *ciliatum*	Fringed willowherb	N

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Erigeron canadensis	Canada horseweed	N
Erodium botrys	Big heron bill	NN
Eryingium sp.	Button celery	N
Euphorbia ocellata ssp. *ocellata*	Valley spurge	N
Euthamia occidentalis	Western goldenrod	N
Festuca bromoides	Brome fescue	NN
Festuca perennis	Rye grass	NN, I
Gastridium phleoides	Nit grass	NN
Geranium dissectum	Cut leaved geranium	NN, I
Geranium molle	Crane's bill geranium	NN
Glinus lotoides	Lotus sweetjuice	NN
Helminthotheca echioides	Bristly ox-tongue	NN, I
Heteromeles arbutifolia	Toyon	N
Heterotheca grandiflora	Telegraph weed	N
Holocarpha virgata ssp. *virgata*	Narrow tarplant	N
Hordeum murinum	Foxtail barley	NN, I
Hypericum perforatum ssp. *perforatum*	Common st. johnswort	NN, I
Hypochaeris radicata	Hairy cat's ear	NN, I
Juncus cf. *balticus* ssp. *ater*	Baltic rush	N
Juncus effusus ssp. *pacificus*	Pacific rush	N
Kickxia sp.	Fluellin	NN
Lactuca serriola	Prickly lettuce	NN
Lemna sp.	Duckweed	N
Lessingia virgata var. *glomerata*	Wand lessingia	N
Lupinus bicolor	Miniature Lupine	N
Lythrum hyssopifolia	Hyssop loosestrife	NN, I
Medicago polymorpha	Bur clover	NN, I
Mentha pulegium	Pennyroyal	NN, I
Muhlenbergia rigens	Deergrass	N
Nerium oleander	Oleander	NN
Paspalum dilatatum	Dallis grass	NN
Pistacia chinensis	Chinese pistachio	NN
Plagiobothrys fulvus var. *campestris*	Field popcornflower	N
Plantago lanceolata	English plantain	NN, I
Platanus racemosa	*California sycamore*	N
Polypogon monspeliensis	Rabbitsfoot grass	NN, I
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Pyrus calleryana	Callery pear	NN, I
Quercus douglasii	Blue oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Ranunculus boneriensis var. *trisepalus*	Vernal pool buttercup	N
Raphanus sativus	Jointed charlock	NN, I
Rubus armeniacus	Himalayan blackberry	NN, I
Rumex crispus	Curly dock	NN, I
Rumex pulcher	Fiddle dock	NN
Salix exigua var. *hindsiana*	Sandbar willow	N
Salix googingii	Gooding's willow	N
Salix laevigata	Red willow	N
Salix lasiolepis	Arroyo willow	N
Silybum marianum	Milk thistle	NN, I

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Sonchus sp.	Sowthistle	NN
Stipa sp.	Needlegrass	N
Torilis arvensis	Field hedge parsley	NN, I
Triadica sebifera	Chinese tallowtree	NN, I
Trichostema lanceolatam	Vinegarweed	N
Trifolium depauperatum var. *Depauperatum*	Dwarf sack clover	N
Trifolium fragiferum	Strawberry clover	NN
Trifolium hirtum	Rose clover	NN, I
Triphysaria eriantha	Butter 'n' eggs	N
Triteleia laxa	Ithuriel's spear	N
Typha sp.	Cattail	N
Vicia villosa	Hairy vetch	NN
Xanthium strumarium	Rough cockleburr	N
Zeltnera muehlenbergii	Muehlenberg's centaury	N
Orchard Creek		
Alopecurus saccatus	Pacific foxtail	N
Avena barbata	Slender oat	NN, I
Brassica nigra	Black mustard	NN, I
Briza minor	Little quaking grass	NN
Brodiaea elegans	Harvest brodiaea	N
Bromus diandrus	Ripgut grass	NN, I
Bromus hordeaceus	Soft chess	NN, I
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	NN
Centaurea solstitialis	Yellow star thistle	NN, I
Centromadia fitchii	Spikeweed	N
Cichorium intybus	Chicory	NN
Croton setiger	Turkey-mullein	N
Deschampsia danthonioides	Annual hairgrass	N
Dichelostemma capitatum ssp. *capitatum*	Bluedicks	N
Ditttrichia graveolens	Stinkwort	NN, I
Eleocharis macrostachya	Common spikerush	N
Elymus caput-medusae	Medusahead	NN, I
Erodium botrys	Big heron bill	NN
Eryingium sp.	Button celery	N
Eryngium vaseyi	Coyote thistle	N
Euphorbia ocellata ssp. *ocellata*	Valley spurge	N
Festuca bromoides	Brome fescue	NN
Festuca perennis	Rye grass	NN, I
Geranium dissectum	Cut leaved geranium	NN, I
Geranium molle	Crane's bill geranium	NN
Glinus lotoides	Lotus sweetjuice	NN
Helminthotheca echioides	Bristly ox-tongue	NN, I
Hordeum murinum	Foxtail barley	NN, I
Hypericum perforatum ssp. *perforatum*	Common st. johnswort	NN, I
Juncus bufonius	Common toad rush	N
Juncus sp.	Rush	N
Lactuca serriola	Prickly lettuce	NN
Lasthenia fremontii	Fremont's goldfields	N
Lasthenia glaberrima	Smooth goldfields	N
Leontodon saxatilis	Hawkbit	NN

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Medicago polymorpha	Bur clover	NN, I
Mentha pulegium	Pennyroyal	NN, I
Muhlenbergia rigens	Deergrass	N
Paspalum dilatatum	Dallis grass	NN
Plagiobothrys fulvus var. *campestris*	Field popcornflower	N
Plagiobothrys stipitatus	Stalked popcornflowe	N
Plantago lanceolata	English plantain	NN, I
Polypogon monspeliensis	Rabbitsfoot grass	NN, I
Psilocarphus brevissimus	Short woollyheads	N
Ranunculus aquatilis	Whitewater crowfoot	N
*Ranunculus boneriensis*var. *trisepalus*	Vernal pool buttercup	N
Rumex crispus	Curly dock	NN, I
Silybum marianum	Milk thistle	NN, I
Sonchus sp.	Sowthistle	NN
Trichostema lanceolatam	Vinegarweed	N
*Trifolium depauperatum*var. *Depauperatum*	Dwarf sack clover	N
Trifolium fragiferum	Strawberry clover	NN
Trifolium hirtum	Rose clover	NN, I
Triphysaria eriantha	Butter 'n' eggs	N
Triteleia hyacinthina	White brodiaea	N
Vicia villosa	Hairy vetch	NN
Parklands North Preserve		
Aesculus californica	California buckeye	N
Avena sp.	Oat	~
Carduus pycnocephalus	Italian thistle	NN,I
Centaurea solstitialis	Yellow star thistle	NN,I
Cynodon dactylon	Bermuda grass	NN, I
Hordeum murinum	Wall barley	NN, I
Persicaria sp.	Smartweed	(N)
Phytolacca americana var. *americana*	American pokeweed	NN, I
Pinus sp.	Pine	~
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Quercus douglasii	Blue oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Rubus armeniacus	Himalayan blackberry	NN,I
Salix sp.	Willow	~
Sambucus nigra ssp. *caerulea*	Blue elderberry	N
Typha sp.	Cattail	N
Vitis californica	Wild grape	N
Placer Creek Preserve		
Amsinckia sp.	Fiddleneck	~
Avena sp.	Oat	~
Baccharis pilularis	Coyote brush	N
Blennosperma nanum	Yellow carpet	N
Dichelostema sp.	Blue dicks	~
Ditttrichia graveolens	Stinkwort	NN, I
Eleocharis macrostachya	Common spikerush	N
Elymus caput-medusae	Medusahead	NN, I
Erodium botrys	Big heron bill	NN
Festuca sp.	Fescue	~

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Geranium dissectum	Cut leaved geranium	NN, I
Holocarpha virgata ssp. *virgata*	Narrow tarplant	NN
Hypochaeris glabra	Smooth cat's ear	NN, I
Lasthenia californica	California goldfields	N
Leontodon saxatilis	Hawkbit	NN
Lupinus sp.	Lupine	~
Ranunculus bonariensis	Carter's buttercup	N
Rumex crispus	Curly dock	NN, I
Senecio vulgaris	Common groundsel	NN
Triphysaria eriantha	Butter 'n' eggs	N
Vicia sp.	Vetch	~
Stanford Ranch Preserve		
Acer macrophyllum	Bigleaf maple	N
Acmispon americanus var. *americanus*	American bird's foot trefoil	N
Aegilops triuncialis	Barbed goatgrass	NN, I
Aesculus californica	California buckeye	N
Alisma lanceolatum	Lanceleaf water plantain	NN
Alnus rhombifolia	White alder	N
Alopecurus saccatus	Pacific foxtail	N
Amaranthus californicus	California amaranth	N
Amsincki intermdia	Comman fiddleneck	N
Andropogon virginicus var. *virginicus*	Broomsedge bluestem	NN
Asclepias eriocarpa	Indian milkweed	N
Asclepias fascicularis	Narrow leaf milkweed	N
Avena barbata	Slender oat	NN, I
Baccharis pilularis	Coyote brush	N
Bellardia trixago	Mediterranean linseed	NN, I
Brachypodium distachyon	False brome	NN, I
Brassica nigra	Black mustard	NN, I
Briza minor	Little quaking grass	N
Brodiaea elegans ssp. *elegans*	Harvest brodiaea	N
Brodiaea minor	Dwarf brodiaea	N
Bromus diandrus	Ripgut grass	NN, I
Bromus hordeaceus	Soft chess	NN, I
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	NN, I
Castilleja attenuata	Narrow leaved owl's clover	N
Castilleja campestris	Vernal pool indian paintbrush,	N
Catalpa speciosa	Northern catalpa	NN
Centaurea solstitialis	Yellow star thistle	NN, I
Cephalanthus occidentalis	Common buttonbush	N
Chondrilla juncea	Skeleton weed	NN, I
Cichorium intybus	Chicory	NN
Cirsium vulgare	Bull thistle	NN, I
Convolvulus arvensis	Field bindweed	NN
Cordylanthus mollis ssp. *hispidus*	Hispid bird's-beak	N RARE
Cortaderia sp.	Pampas grass	NN, I
Crassula aquatica	Aquatic pygmy weed	N
Cressa truxillensis	Alkali weed	N
Croton setiger	Turkey-mullein	N
Cynodon dactylon	Bermuda grass	NN, I

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Cynosurus echinatus	Annual dogtail	NN, I
Cyperus eragrostis	Tall cyperus	N
Deschampsia danthonioides	Annual hairgrass	N
Dichelostema capitatum	Blue dicks	N
Digitaria sanguinalis	Hairy crabgrass	NN
Dittrichia graveolens	Stinkwort	NN, I
Downingia bicornuta	Bristled downingia	N
Downingia cuspidata	Toothed downingia	N
Downingia ornatissima	Horned downingia	N
Echinochloa cf. crus -galli	Barnyard grass	NN
Eleocharis acicularis	Needle spike rush	N
Eleocharis macrostachya	Spikerush	N
Elymus caput-medusae	Medusahead	NN, I
Elymus caput-medusae	Medusa head	NN, I
Elymus cf. ponticus	Tall wheat grass	NN
Elymus glaucus	Blue wild rye	N
Epilobium brachycarpum	Autumn willowweed	N
Epilobium ciliatum	Willowherb	NN
Epilobium densiflorum	Denseflower willowherb	N
Erigeron canadensis	Canada horseweed	N
Erodium botrys	Big heron bill	NN
Eryngium vaseyi	Coyote thistle	N
Eschscholzia californica	California poppy	N
Eucalyptus sp.	Eucalyptus	NN
Euphorbia ocellata ssp. *ocellata*	Valley spurge	N
Festuca bromoides	Brome fescue	NN
Festuca perennis	Rye grass	NN, I
Ficus carica	Edible fig	NN, I
Galium aparine	Cleavers	N
Geranium dissectum	Wild geranium	NN, I
Geranium molle	Crane's bill geranium	NN
Glyceria sp.	Mannagrass	(NN)
Helminthotheca echioides	Bristly ox-tongue	NN, I
Hirschfeldia incana	Short podded mustard	NN, I
Holocarpha virgata ssp. *virgata*	Narrow tarplant	NN
Hordeum brachyantherum	Meadow barley	N
Hordeum marinum	Seaside barley	NN
Hordeum murinum	Foxtail barley	NN, I
Hypochaeris glabra	Smooth cat's ear	NN, I
Juncus bufonius	Common toad rush	N
Juncus cf. balticas ssp. *ater*	Baltic rush	N
Juncus effusus ssp. *pacificus*	Pacific rush	N
Juncus sp.	Rush	N
Lactuca serriola	Prickly lettuce	NN
Lasthenia californica	California goldfields	N
Lasthenia fremontii	Fremont's goldfields	N
Lasthenia glaberrima	Smooth goldfields	N
Layia fremontii	Fremont layia	N
Lemna sp.	Duckweed	N
Leontodon saxatilis ssp. *longirostris*	Hawkbit	NN

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Lysmachia arvensis	Scarlet pimpernel	NN
Lythrum hyssopifolia	Hyssop loosestrife	NN, I
Marrubium vulgare	White horehound	NN, I
Medicago polymorpha	California burclover	NN, I
Mentha pulegium	Pennyroyal	NN, I
Mentha spicata	Spearmint	NN
Muhlenbergia rigens	Deergrass	N
Navarretia intertexta	Interwoven navarretia	N
Navarretia leucocephala	White headed navarretia	N
Olea europaea	Olive	NN, I
Panicum cf. capillare	Witchgrass	N
Parentucellia viscosa	yellow glandweed	NN, I
Paspalum dilatatum	Dallis grass	NN
Persicaria hydropiper	Common smartweed	NN
Persicaria sp.	Smartweed	(N)
Phalaris aquatica	Harding grass	NN, I
Phalaris cf. minor	Little seed canarygrass	NN
Phoradendron leucarpum ssp. *macrophyllum*	Mistletoe	N
Phyla nodiflora	Lippia	N
Phyllostachys sp.	Bamboo	NN
Phytolacca americana var. *americana*	American pokeweed	NN, I
Pilularia americana	American pillwort	N
Plagiobothrys fulvus	Fulvous popcorn flower	N
Plagiobothrys greenei	Greene's allocarya	N
Plagiobothrys stipitatus	Stalked popcornflower	N
Plantago elongata	Annual coast plantago	N
Plantago lanceolata	English plantain	NN, I
Pogogyne zizyphoroides	Sacramento mint	N
Polygonum aviculare ssp. *depressum*	Prostrate knotweed	NN
Polygonum sp.	Smartweed	N
Polypogon monspeliensis	Rabbitsfoot grass	NN, I
Populus fremontii	Fremont cottonwood	N
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Psilocarphus brevissimus	Short woollyheads	N
Punica granatum	Pomegranate	NN
Pyracantha sp.	Firethorn	NN
Pyrus calleryana	Callery pear	NN, I
Quercus douglasii	Blue oak	N
Quercus lobata	Valley oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Ranunculus bonariensis	Vernal pool indian paintbrush	N
Robinia pseudoacacia	Black locust	NN, I
Rosa sp.	Rose	NN
Rosmarinus officinalis	Rosemary	NN
Rubus armeniacus	Himalayan blackberry	NN, I
Rumex crispus	Curly dock	NN, I
Rumex pulcher	Fiddle dock	NN
Salix babylonica	Weeping willow	NN
Salix cf. lasiandra var. *lasiandra*	Pacific willow	N

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Salix exigua var. *hindsiana*	Sandbar willow	N
Salix goodingii	Gooding's willow	N
Salix lasiolepis	Arroyo willow	N
Sanicula bipinnatifida	Purple sanicle	N
Schoenoplectus acutus var. *occidentalis*	Tule	N
Schoenoplectus americanus	Tule	N
Silybum marianum	Blessed milkthistle	NN, I
Sonchus oleraceus	Sow thistle	NN
Sorghum halepense	Johnsongrass	NN
Stipa sp.	Needlegrass	N
Toxicodendron diversilobum	Poison oak	N
Triadica sebifera	Chinese tallowtree	NN, I
Trifolium depauperatum	Cowbag clover	N
Trifolium dubium	Shamrock clover	NN
Trifolium hirtum	Rose clover	NN, I
Trifolium sp.	Clover	/
Triglochin scilloides	Flowering-quillwort	N
Triteleia hyacinthina	White brodiaea	N
Sunset West Preserve		
Acmispon americanus var. *americanus*	American bird's foot trefoil	N
Adiantum jordanii	California maidenhair fern	N
Aira caryophyllea	Shiver grass	NN
Alnus rhombifolia	White alder	N
Alopecurus saccatus	Pacific foxtail	N
Amaranthus californicus	California amaranth	N
Ammania robusta	Grand ammania	N
Andropogon virginicus var. *virginicus*	Broomsedge bluestem	NN
Avena barbata	Slender oat	NN, I
Azolla filiculoides	American water fern	N
Baccharis pilularis ssp. *consanguinea*	Coyote brush	N
Briza minor	Little quaking grass	N
Brodiaea elegans	Harvest brodiaea	N
Brodiaea minor	Dwarf brodiaea	N
Bromus diandrus	Ripgut grass	NN, I
Bromus hordeaceus	Soft chess	NN, I
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	NN, I
Catalpa speciosa	Northern catalpa	NN
Centaurea solstitialis	Yellow star thistle	NN, I
Centromadia fitchii	Spikeweed	N
Chondrilla juncea	Skeleton weed	NN, I
Cirsium vulgare	Bull thistle	NN, I
Convolvulus arvensis	Field bindweed	NN
Cortaderia sp.	Pampas grass	NN, I
Crassula aquatica	Aquatic pygmy weed	N
Croton setiger	Turkey-mullein	N
Cuscuta sp.	Dodder	N
Cynodon dactylon	Bermuda grass	NN, I
Cynosurus echinatus	Annual dogtail	NN, I
Cyperus difformis	Variable flatsedge	NN
Cyperus eragrostis	Tall flatsedge	N

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Deschampsia danthonioides	Annual hairgrass	N
Digitaria sanguinalis	Hairy crabgrass	NN
Dittrichia graveolens	Stinkwort	NN, I
Downingia bicornuta	Bristled downingia	N
Downingia ornatissima	Horned downingia	N
Eichhornia crassipes	Common water hyacinth	NN, I
Eleocharis acicularis	Needle spike rush	N
Eleocharis macrostachya	Spikerush	N
Elymus caput-medusae	Medusahead	NN, I
Elymus caput-medusae	Medusa head	NN, I
Epilobium brachycarpum	Autumn willowweed	N
Epilobium densiflorum	Dense boisduvalia	N
Erigeron canadensis	Canada horseweed	N
Erodium botrys	Broad leaf filaree	NN
Erodium cicutarium	Red stemmed filaree	NN, I
Eryngium sp.	Button celery	N
Eryngium vaseyi	Coyote thistle	N
Euphorbia ocellata ssp. *ocellata*	Valley spurge	N
Euthamia occidentalis	Western goldenrod	N
Festuca bromoides	Brome fescue	NN
Festuca myuros	Rattail sixweeks grass	NN, I
Festuca perennis	Rye grass	NN, I
Ficus carica	Edible fig	NN, I
Galium aparine	Common bedstraw	N
Geranium molle	Crane's bill geranium	NN
Glyceria declinata	Waxy mannagrass	N
Glyceria s p.	Mannagrass	(NN)
Gratiola ebracteata	Bractless hedge hyssop	N
Helminthotheca echioides	Bristly ox-tongue	NN, I
Heterotheca grandiflora	Telegraph weed	N
Hirschfeldia incana	Short podded mustard	NN, I
Holocarpha virgata ssp. *virgata*	Narrow tarplant	N
Hordeum marinum	Seaside barley	NN
Hordeum murinum	Foxtail barley	NN, I
Juncus bufonius	Common toad rush	N
Juncus cf. balticus ssp. *ater*	Baltic rush	N
Juncus effusus ssp. *pacificus*	Pacific rush	N
Juncus oxymeris	Pointed rush	N
Juncus sp.	Rush	N
Lactuca serriola	Prickly lettuce	NN
Lasthenia californica	California goldfields	N
Lasthenia fremontii	Fremont's goldfields	N
Lasthenia glaberrima	Smooth goldfields	N
Lathyrus angulatus	Angled pea vine	NN
Layia fremontii	Fremont layia	N
Leersia oryzoides	Rice cutgrass	N
Lemna sp.	Duckweed	N
Leontodon saxatilis	Hawkbit	NN
Ludwigia sp.	Water primrose	(NN)
Lythrum hyssopifolia	Loosestrife	NN, I

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Mentha pulegium	Pennyroyal	NN, I
Mimulus guttatus	Seep monkey flower	N
Muhlenbergia rigens	Deergrass	N
Navarretia leucocephala	White headed navarretia	N
Oenothera sp.	Evening primrose	N
Paspalum dilatatum	Dallis grass	NN
Persicaria sp.	Knotweed	(N)
Phalaris sp.	Canary grass	NN
Physalis cf. angulata	Cutleaf groundcherry	N
Pilularia americana	American pillwort	N
Plagiobothrys greenei	Greene's allocarya	N
Plagiobothrys stipitatus	Stalked popcornflower	N
Plantago elongata	Annual coast plantago	N
Platanus sp.	Planetree	NN
Pogogyne zizyphoroides	Sacramento mint	N
Polygonum sp.	Smartweed	N
Polypogon monspeliensis	Rabbitsfoot grass	NN, I
Populus fremontii	Fremont cottonwood	N
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Portulaca oleracea	Common purslane	NN
Psilocarphus brevissimus	Short woollyheads	N
Psilocarphus brevissimus var. *brevissimus*	Short woolyheads	N
Pyrus calleryana	Callery pear	NN, I
Quercus lobata	Valley oak	N
Quercus wislizeni var. *wislizeni*	Interior live oak	N
Ranunculus aquatilis	Whitewater crowfoot	N
Ranunculus bonariensis	Carter's buttercup	N
Robinia pseudoacacia	Black locust	NN, I
Rubus armeniacus	Himalayan blackberry	NN, I
Rumex crispus	Curly dock	NN, I
Rumex pulcher	Fiddle dock	NN
Salix babylonica	Weeping willow	NN
Salix exigua	Narrow leaved willow	N
Salix exigua var. *hindsiana*	Sandbar willow	N
Salix goodingii	Gooding's 'willow	N
Salix laevigata	Red willow	N
Salix lasiandra var. *lasiandra*	Pacific willow	N
Salix sp.	Willow	N
Salsola tragus	Tumblwweed	NN, I
Schoenoplectus acutus var. *occidentalis*	Tule	N
Sorghum halepense	Johnsongrass	NN
Spergularia rubra	Purple sand spurry	NN
Stipa miliacea var. *miliacea*	Smilo grass	NN, I
Stipa s p.	Needlegrass	N
Tamarix sp.	Tamarisk	NN, I
Torilis arvensis	Field hedge parsley	NN, I
Triadica sebifera	Chinese tallowtree	NN, I
Trichostema lanceolatum	Vinegar weed	N
Trifolium depauperatum	Cowbag clover	N
Trifolium dubium	Shamrock clover	NN

Attachment F
Plant Species Observed

Scientific Name	Common Name	Native, Non-native, Invasive
Trifolium hirtum	Rose clover	NN, I
Trifolium sp.	Clover	/
Triglochin scilloides	Flowering-quillwort	N
Triteleia hyacinthina	White brodiaea	N
Typha sp.	Cattail	N
Veronica peregrina	Hairy purslane speedwell	N
Vicia sp.	Vetch	/
Vicia villosa	Hairy vetch	NN
Xanthium strumarium	Rough cockleburr	N
Whitney Ranch Preserve		
Acmispon purshianus	Spanish lotus	NN,I
Avena fatua	Wild oat	NN
Baccharis pilularis	Coyote brush	N
Brassica rapa	Field mustard	NN
Bromus diandrus	Ripgut grass	NN
Bromus hordeaceus	Soft chess	NN
Carduus pycnocephalus	Italian thistle	NN,I
Centaurea solstitialis	Yellow star thistle	NN,I
Centromadia fitchii	Spikeweed	N
Croton setigerus	Turkey-mullein	N
Cyperus eragrostis	Nutsedge	N
Datura sp.	Jimson weed	NN
Eleocharis macrostachya	Spikerush	N
Elymus caput-medusae	Medusahead	NN,I
Epilobium ciliatum	Willowherb	N
Festuca perennis	Rye grass	NN
Ficus carica	Edible fig	NN,I
Foeniculum vulgare	Sweet fennel	NN, I
Galium aparine	Common bedstraw	N
Holocarpha virgata	Tarweed	N
Hordeum marinum	Mediterranean barley	NN
Juncus patens	Spreading rush	N
Lactuca serriola	Prickly lettuce	NN,I
Mentha pulegium	Pennyroyal	NN,I
Paspalum dilatatum	Dallis grass	NN,I
Plantago lanceolata	English plantain	NN
Polygonum sp.	Knotweed	NN
Polypogon monspeliensis	Rabbitsfoot grass	NN,I
Populus fremontii ssp. *fremontii*	Fremont cottonwood	N
Pyrus calleryana	Callery pear	NN,I
Raphanus sativus	Wild radish	NN,I
Rubus armeniacus	Himalayan blackberry	NN,I
Rumex crispus	Curly dock	NN,I
Salix laevigata	Red willow	N
Triadica sebifera	Chinese tallowtree	NN,I
Trichostema lanceolatum	Vinegar weed	N
Trifolium dubium	Little hop clover	NN
Trifolium hirtum	Rose clover	NN,I
Typha angustifolia	Narrow-leaved cattail	N

Attachment G

Animal Species Observed or Detected

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Attachment G
Animal Species Observed or Detected

Order	Family	Scientific Name	Common Name
Accipititriformes	Accipitridae	*Buteo lineatus*	Red-shouldered hawk
	Accipitridae	*Buteo jamaicensis*	Red-tailed hawk
	Cathartidae	*Cathartes aura*	Turkey vulture
Anseriformes	Anatidae	*Branta canadensis*	Canada goose
		Anas platrhynchos	Mallard
		Anas acuta	Northern pintail
Anura	Ranidae	*Lithobates catesbeianus*	American bullfrog
	Hylidae	*Hyliola sierra* (formerly *Pseudacris sierra*)	Sierran tree frog
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
Artiodactyla	Cervidae	*Odocoileus hemionus*	Black-tailed mule deer
	Bovidae	*Ovis aries*	Domestic sheep
Carnivora	Canidae	*Canis latrans*	Coyote
		Canis lupus familiaris	Domestic cat
	Felidae	*Felis catus*	Domestic dog
	Mustelidae	*Lontra canadensis*	North American river otter
	Procyonidae	*Procyon lotor*	Raccoon
Charadriiformes	Recurvirostridae	*Himantopus mexicanus*	Black-necked stilt
	Charadriidae	*Charadrius vociferus*	Killdeer
Columbiformes	Columbidae	*Zenaida macroura*	Mourning dove
		Columba livia	Rock pigeon
Coraciiformes	Alcedinidae	*Megaceryle alcyon*	Belted kingfisher
Decapoda	Cambaridae		Freshwater crayfish
Galliformes	Odontophoridae	*Callipepla californica*	California quail
	Phasianidae	*Phasianus colchicus*	Ring-necked pheasant
	Phasianidae	*Meleagris gallopavo*	Wild turkey
Gruiformes	Rallidae	*Fulica americana*	American coot
Lagomorpha	Leporidae	*Lepus californicus*	Black-tailed jackrabbit
		Sylvilagus audubonii	Desert cottontail
Lepidoptera	Nymphalidae	*Danaus plexippus*	Monarch butterfly
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American crow
	Turdidae	*Turdus migratorius*	American robin
	Troglodytidae	*Thryomanes bewickii*	Bewick's wren
	Tyrannidae	*Sayornis nigricans*	Black phoebe
	Icteridae	*Euphagus cyanocephalus*	Brewer's blackbird
	Aegithalidae	*Psaltriparus minimus*	Bushtit
	Corvidae	*Aphelocoma californica*	California scrub-jay
	Passerellidae	*Melozone crissalis*	California towhee
	Corvidae	*Corvus corax*	Common raven
	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
	Sturnidae	*Sturnella vulgaris*	European starling
	Fringillidae	*Haemorhous mexicanus*	House finch
	Passeridae	*Passer domesticus*	House sparrow
	Troglodytidae	*Troglodytes aedon*	House wren
	Icteridae	*Agelaius phoeniceus*	Red-winged blackbird
	Regulidae	*Regulus calendula*	Ruby-crowned kinglet
	Passerellidae	*Passerculus sandwichensis*	Savannah sparrow
	Tyrannidae	*Sayornis saya*	Say's phoebe
	Passerellidae	*Pipilo maculatus*	Spotted towhee
	Turdidae	*Sialia mexicana*	Western bluebird
	Icteridae	*Sturnella neglecta*	Western meadowlark
	Passerellidae	*Zonotrichia leucophrys*	White-crowned sparrow
	Parulidae	*Setophaga petechia*	Yellow warbler
	Parulidae	Setophaga coronata	Yellow-rumped warbler
	Mimidae	*Mimus polyglottos*	Northern mockingbird
Pelecaniformes	Ardeidae	*Ardea herodias*	Great blue heron
		Ardea alba	Great egret
		Butorides virescens	Green Heron
Piciformes	Picidae	*Melanerpes formicivorus*	Acorn woodpecker
		Colaptes auratus	Northern flicker
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel
		Sciurus griseus	Western gray squirrel

Attachment G
Animal Species Observed or Detected

Order	Family	Scientific Name	Common Name
Squamata	Colubridae	*Lampropeltis californiae*	California kingsnake
		Masticophis lateralis	California whipsnake
		Thamnophis sp.	Garter snake
	Anguidae	*Elgaria multicarinata*	Southern alligator lizard
	Phrynosomatidae	*Sceloporus occidentalis*	Western fence lizard
Strigiformes	Tytonidae	*Tyto alba*	Barn owl
Testudines	Emydidae	*Actinemys marmorata*	Western pond turtle

Attachment H

Residual Dry Matter Datasheets

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Rocklin Open Space Preserves

Biologist(s): Greg Davis

Preserve Area	RDM Sampling Point	Vegetation Utilization (visual percentage)				Degree of Veg Utilization	Dried Weight (grams/sqft)	RDM Calc (Dried weight) X (96 lbs/acre)	Photo Number		Date Sampled	Habitat Type	Dominant Vegetation Observed
		Distance	Golf ball	Baseball	Basketball				10 ft Distance	20 ft Distance			
Claremont (C-4)	22	**10 ft**	95%	100%	100%	5	9	864	22_10	22_20	9/1/2021	AG	*Elymus caput-medusae, Avena barbata, Bromus hordeaceus*
		20 ft	90%	95%	100%								
Claremont (C-3)	50	**10 ft**	90%	95%	100%	5	14	1,344	50_10	50_20	9/1/2021	OW	*Quercus douglasii, Avena barbata, Bromus diandrus*
		20 ft	75%	90%	100%								
Stanford Ranch (SR-2)	49	**10 ft**	85%	80%	98%	1	33	3,168	IMG_8045	IMG_8046	9/1/2021	OW	*Salix exigua, Avena barbata*
		20 ft	65%	65%	95%								
Stanford Ranch (SR-4)	47	**10 ft**	95%	100%	100%	5	8	768	IMG_8048	IMG_8049	9/1/2021	OW	*Quercus wislizeni, Avena barbata*
		20 ft	90%	95%	98%								
Stanford Ranch (SR-6)	48	**10 ft**	95%	100%	100%	2	14	1,344	IMG_8051	IMG_8052	9/1/2021	OW	*Quercus lobata, Quercus wislizeni, Bromus diandrus*
		20 ft	50%	90%	100%								
Stanford Ranch (SR-16)	19	**10 ft**	10%	35%	70%	1	18	1,728	IMG_8054	IMG_8055	9/1/2021	AG	*Avena barbata*
		20 ft	0%	10%	50%								
Stanford Ranch (SR-11)	39	**10 ft**	100%	100%	100%	1	6	576	IMG_8057	IMG_8058	9/1/2021	OW	*Salix exigua, Cynodon dactylon, Quercus wislizeni*
		20 ft	95%	98%	100%								
Stanford Ranch (SR-15)	36	**10 ft**	10%	50%	80%	1	12	1,152	IMG_8060	IMG_8061	9/1/2021	AG	*Elymus caput-medusae, Avena barbata*
		20 ft	0%	25%	75%								
Stanford Ranch (SR-15)	35	**10 ft**	2%	10%	75%	1	18	1,728	IMG_8063	IMG_8064	9/1/2021	AG	*Elymus caput-medusae*
		20 ft	0%	2%	60%								
Stanford Ranch (SR-13)	40	**10 ft**	90%	100%	100%	3	12	1,152	IMG_8066	IMG_8067	9/1/2021	OW	*Avena barbata, Elymus caput-medusae*
		20 ft	60%	80%	95%								

RDM Objective for Annual Grassland (AG):	**800-1,200 lbs/acre**
RDM Objective for Oak Woodland (OW):	**400-1,200 lbs/acre**

RDM = (Dry Weight of Sample in grams) X (96 lbs/acre) OR
RDM = (X grams/1 sqft) X (43560 sf/1 acre) X (1 lb/454 grams)

Degree of Vegetation Utilization:

1 - None	**0-15%; Little or no use of surveyed vegetation**
2 - Light	**16-35%; Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.**
3 - Moderate	**36-65%; Grazing is spotty, but evident. Trampling damage may be evident.**
4 - Heavy	**66-80%; Surveyed vegetation is closely cropped. Trampling damage should be evident.**
5 - Severe	**> 80%; Surveyed vegetation grubbed. Trampling damage evident.**

California Guidelines for RDM Management on Coastal and Foothill Annual Rangelands. 2002. Publication 8092. University of California, Division of Agriculture and Natural Resources.

Rocklin Open Space Preserves

Biologist(s): Greg Davis

Preserve Area	RDM Sampling Point	Vegetation Utilization (visual percentage)				Degree of Veg Utilization	Dried Weight (grams/sqft)	RDM Calc (Dried weight) X (96 lbs/acre)	Photo Number		Date Sampled	Habitat Type	Dominant Vegetation Observed
		Distance	Golf ball	Baseball	Basketball				10 ft Distance	20 ft Distance			
Stanford Ranch (SR-12)	11	**10 ft**	40%	60%	90%	1	12	1,152	IMG_8069	IMG_8070	9/2/2021	AG	*Elymus caput-medusae, Distichlis spicata*
		20 ft	25%	30%	80%								
Stanford Ranch (SR-13)	37	**10 ft**	90%	90%	100%	3	6	576	IMG_8076	IMG_8077	9/2/2021	OW	*Quercus wislizeni, Quercus lobata, Avena barbata*
		20 ft	80%	85%	95%								
Stanford Ranch (SR-13)	10	**10 ft**	0%	5%	30%	1	32	3,072	IMG_8079	IMG_8080	9/2/2021	AG	*Bromus diandrus, Elymus caput-medusae, Bromus hordeaceus*
		20 ft	0%	0%	20%								
Stanford Ranch (SR-12)	12	**10 ft**	100%	100%	100%	5	4	384	IMG_8082	IMG_8083	9/2/2021	AG	*Elymus caput-medusae, Bromus hordeaceus*
		20 ft	90%	95%	98%								
Stanford Ranch (SR-17)	43	**10 ft**	100%	100%	100%	5	2	192	IMG_8085	IMG_8086	9/2/2021	OW	*Elymus caput-medusae*
		20 ft	100%	100%	100%								
Stanford Ranch (SR-17)	44	**10 ft**	75%	80%	95%	4	6	576	IMG_8088	IMG_8089	9/2/2021	OW	*Elymus caput-medusae, Populus fremontii, Salix lasiolepis*
		20 ft	60%	70%	90%								
Stanford Ranch (SR-17)	17	**10 ft**	100%	100%	100%	5	2	192	IMG_8091	IMG_8092	9/2/2021	AG	*Elymus caput-medusae, Avena barbata*
		20 ft	100%	100%	100%								
Stanford Ranch (SR-18)	41	**10 ft**	80%	95%	100%	2	8	768	IMG_8094	IMG_8095	9/2/2021	OW	*Elymus caput-medusae, Bromus diandrus, Salix lasiolepis*
		20 ft	50%	75%	90%								
Stanford Ranch (SR-19)	18	**10 ft**	95%	100%	100%	4	4	384	IMG_8097	IMG_8098	9/2/2021	AG	*Centaurea solstitialis, Bromus hordeaceus, Avena barbata*
		20 ft	90%	95%	98%								
Stanford Ranch (SR-21)	38	**10 ft**	100%	100%	100%	5	2	192	IMG_8100	IMG_8101	9/2/2021	OW	*Bromus hordeaceus*
		20 ft	100%	100%	100%								

RDM Objective for Annual Grassland (AG):	**800-1,200 lbs/acre**
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4 - Heavy 66-80%; Surveyed vegetation is closely cropped. Trampling damage should be evident.

5 - Severe > 80%; Surveyed vegetation grubbed. Trampling damage evident.

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Rocklin Open Space Preserves

Biologist(s): Greg Davis

Preserve Area	RDM Sampling Point	Vegetation Utilization (visual percentage)				Degree of Veg Utilization	Dried Weight (grams/sqft)	RDM Calc (Dried weight) X (96 lbs/acre)	Photo Number		Date Sampled	Habitat Type	Dominant Vegetation Observed
		Distance	Golf ball	Baseball	Basketball				10 ft Distance	20 ft Distance			
Stanford Ranch (SR-21)	14	**10 ft**	40%	55%	80%	2	9	864	IMG_8104	IMG_8105	9/2/2021	AG	*Elymus caput-medusae, Bromus hordeaceus*
		20 ft	20%	25%	75%								
Stanford Ranch (SR-14)	13	**10 ft**	100%	100%	100%	5	3	288	IMG_8107	IMG_8108	9/2/2021	AG	*Elymus caput-medusae*
		20 ft	100%	100%	100%								
Sunset West (SW-1)	9	**10 ft**	100%	100%	100%	5	2	192	IMG_8112	IMG_8113	9/2/2021	AG	*Elymus caput-medusae*
		20 ft	100%	100%	100%								
Sunset West (SW-1)	7	**10 ft**	100%	100%	100%	5	2	192	IMG_8117	IMG_8118	9/2/2021	AG	*Elymus caput-medusae, Bromus hordeaceus*
		20 ft	100%	100%	100%								
Sunset West (SW-7)	5	**10 ft**	50%	60%	80%	2	9	864	IMG_8120	IMG_8121	9/2/2021	AG	*Bromus hordeaceus*
		20 ft	30%	45%	70%								
Sunset West (SW-6)	3	**10 ft**	90%	95%	90%	3	9	864	IMG_8276	IMG_8277	9/9/2021	AG	*Elymus caput-medusae, Avena barbata*
		20 ft	80%	85%	90%								
Sunset West (SW-6)	32	**10 ft**	70%	75%	85%	2	10	960	IMG_8280	IMG_8281	9/9/2021	OW	*Populus fremontii, Elymus caput-medusae*
		20 ft	0%	20%	75%								
Sunset West (SW-4)	33	**10 ft**	0%	0%	60%	1	15	1,440	IMG_8283	IMG_8284	9/9/2021	OW	*Salix exigua, Populus fremontii, Cynosurus echinatus, Avena barbata*
		20 ft	0%	0%	50%								
Sunset West (SW-4)	6	**10 ft**	60%	75%	90%	4	8	768	IMG_8286	IMG_8287	9/9/2021	AG	*Bromus diandrus, Elymus caput-medusae*
		20 ft	40%	50%	85%								
Sunset West (SW-3)	8	**10 ft**	70%	80%	95%	4	9	864	IMG_8289	IMG_8290	9/9/2021	AG	*Elymus caput-medusae*
		20 ft	45%	50%	85%								

RDM Objective for Annual Grassland (AG):	**800-1,200 lbs/acre**
RDM Objective for Oak Woodland (OW):	**400-1,200 lbs/acre**

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Rocklin Open Space Preserves

Biologist(s): Greg Davis

Preserve Area	RDM Sampling Point	Vegetation Utilization (visual percentage)				Degree of Veg Utilization	Dried Weight (grams/sqft)	RDM Calc (Dried weight) X (96 lbs/acre)	Photo Number		Date Sampled	Habitat Type	Dominant Vegetation Observed
		Distance	Golf ball	Baseball	Basketball				10 ft Distance	20 ft Distance			
Sunset West (SW-5)	34	**10 ft**	100%	100%	100%	5	1	96	IMG_8292	IMG_8293	9/9/2021	OW	*Salix exigua, Rubus armeniacus, Elymus caput-medusae*
		20 ft	100%	100%	100%								
Sunset West (SW-8)	1	**10 ft**	100%	100%	100%	5	0	0	IMG_8295	IMG_8296	9/9/2021	AG	*Hordeum marinum, Holocarpha virgata*
		20 ft	100%	100%	100%								
		10 ft											
		20 ft											
		10 ft											
		20 ft											
		10 ft											
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		20 ft											
		10 ft											
		20 ft											

RDM Objective for Annual Grassland (AG):	**800-1,200 lbs/acre**
RDM Objective for Oak Woodland (OW):	**400-1,200 lbs/acre**

RDM = (Dry Weight of Sample in grams) X (96 lbs/acre) OR
RDM = (X grams/1 sqft) X (43560 sf/1 acre) X (1 lb/454 grams)

<u>Degree of Vegetation Utilization:</u>

1 - None 0-15%; Little or no use of surveyed vegetation
2 - Light 16-35%; Less than 1/3 of surveyed vegetation shows evidence of being grazed. Trampling damage is minimal.
3 - Moderate 36-65%; Grazing is spotty, but evident. Trampling damage may be evident.
4 - Heavy 66-80%; Surveyed vegetation is closely cropped. Trampling damage should be evident.
5 - Severe > 80%; Surveyed vegetation grubbed. Trampling damage evident.

California Guidelines for RDM Management on Coastal and Foothill Annual Rangelands. 2002. Publication 8092. University of California, Division of Agriculture and Natural Resources.

Rocklin Open Space Preserves

Biologist(s): Christine Heckler

Preserve Area	RDM Sampling Point	Vegetation Utilization (visual percentage)				Degree of Veg Utilization	Dried Weight (grams/sqft)	RDM Calc (Dried weight) X (96 lbs/acre)	Photo Number		Date Sampled	Habitat Type	Dominant Vegetation Observed
		Distance	Golf ball	Baseball	Basketball				10 ft Distance	20 ft Distance			
Brighton	52	**10 ft**	0%	0%	45%	1%	48	4,608	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link	9/2/2021	Mixed oak woodland	*Bromus diandrus, Rubus armeniacus*
		20 ft	0%	0%	40%								
Garnet	53	**10 ft**	75%	0%	33%	1%	26	2,496	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link	9/2/2021	Mixed oak woodland	*Bromus diandrus, Trifolium hirtum, Chondrilla juncea, Vicia sativa*
		20 ft	0%	0%	15%								
Garnet	54	**10 ft**	10%	85%	90%	2%	29	2,784	same link as above	same link as above	9/2/2021	Mixed oak woodland	*Avena fatua, Bromus diandrus, Trifolium hirtum, Vivia sativa*
		20 ft	0%	5%	75%								
Orchard Creek	26	**10 ft**	0%	2%	55%	1%	35	3,360	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link	9/3/2021	Annual grassland	*Avena fatua, Bromus hordeaceus, Elymus caput-medusae*
		20 ft	0%	0%	45%								
Orchard Creek	29	**10 ft**	50%	90%	95%	2%	44	4,224	same link as above	same link as above	9/3/2021	Annual grassland	*Elymus caput-medusae, Croton setiger, Centromadia fitchii*
		20 ft	45%	85%	90%								
Parkland North	55	**10 ft**	0%	0%	10%	1%	56	5,376	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link	9/2/2021	Mixed oak woodland	*Rubus armeniacus, Avena fatua, Bromus diandrus, Vicia sativa, Elymus caput-medusae*
		20 ft	0%	0%	5%								
PCCC	31	**10 ft**	0%	0%	33%	1%	54	5,184	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link	9/3/2021	Annual grassland	*Elymus caput-medusae, Bromus hordeaceous, Festuca perennis, Centromadia fitchii*
		20 ft	0%	0%	15%								
Whitney Ranch	2	**10 ft**	90%	85%	90%	3%	26	2,496	M:\PROJECTS\R\RocklinCity_02585\CYR-05RocklinOp	same link for all of WR	9/3/2021	Annual grassland	*Elymus caput-medusae, Avena fatua*
		20 ft	85%	80%	85%								
Whitney Ranch	20	**10 ft**	100%	100%	100%	4%	10	960			9/3/2021	Annual grassland	*Elymus caput-medusae, Avena fatua, Bromus hordeaceous*
		20 ft	100%	100%	100%								
Whitney Ranch	21	**10 ft**	0%	50%	90%	3%	22	2,112			9/3/2021	Annual grassland	*Elymus caput-medusae, Avena fatua*
		20 ft	0%	20%	80%								
Whitney Ranch	23	**10 ft**	100%	100%	100%	4%	12	1,152			9/3/2021	Annual grassland	*Elymus caput-medusae, Avena fatua*
		20 ft	100%	95%	90%								
Whitney Ranch	24	**10 ft**	100%	98%	98%	4%	10	960			9/3/2021	Annual grassland	*Elymus caput-medusae, Avena fatua*
		20 ft	95%	95%	95%								
Whitney Ranch	27	**10 ft**	100%	100%	100%	5%	7	672			9/3/2021	Annual grassland	*Elymus caput-medusae*
		20 ft	100%	100%	100%								

Whitney Ranch	28	**10 ft**	100%	100%	98%	4%	13	1,248			9/3/2021	Annual grassland	*Bromus hordeaceous, Avena fatua*
		20 ft	100%	100%	98%								
Whitney Ranch	30	**10 ft**	50%	75%	95%	4%	17	1,632			9/3/2021	Annual grassland	*Elymus caput-medusae, Centromadia fitchii*
		20 ft	0%	45%	90%								
Whitney Ranch	51	**10 ft**	100%	100%	100%	5%	3	288			9/3/2021	Mixed oak woodland	*Elymus caput-medusae*
		20 ft	100%	100%	100%								

RDM Objective for Annual Grassland (AG):	**800-1,200 lbs/acre**
RDM Objective for Oak Woodland (OW):	**400-1,200 lbs/acre**

RDM = (Dry Weight of Sample in grams) X (96 lbs/acre) OR
RDM = (X grams/1 sqft) X (43560 sf/1 acre) X (1 lb/454 grams)

Degree of Vegetation Utilization:

1 - None **0-15%; Little or no use of surveyed vegetation**
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3 - Moderate **36-65%; Grazing is spotty, but evident. Trampling damage may be evident.**
4 - Heavy **66-80%; Surveyed vegetation is closely cropped. Trampling damage should be evident.**
5 - Severe **> 80%; Surveyed vegetation grubbed. Trampling damage evident.**

California Guidelines for RDM Management on Coastal and Foothill Annual Rangelands. 2002. Publication 8092. University of California, Division of Agriculture and Natural Resources.

Attachment I

Representative Site Photos - Residual Dry Matter Survey

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Brighton RDM location #52, within mixed oak woodland, photo taken from 10 feet. Recommend increase in grazing pressure.

Brighton RDM location #52, within mix oak woodland, photo taken from 20 feet. Recommend increase in grazing pressure.

Claremont (C-4) RDM location #22, within annual grassland, photo taken from 10 feet. Recommend maintain current grazing pressure.

Claremont (C-4) RDM location #22, within annual grassland, photo taken from 20-feet. Recommend maintain current grazing pressure.

Garnet Creek RDM location #54, within mixed oak woodland, photo taken from 10feet. Recommend increase grazing pressure.

Garnet Creek RDM location #54, within mixed oak woodland, photo taken from 20 feet. Recommend increase grazing pressure.

Orchard Creek RDM location #26, within annual grassland, photo taken from 10 feet. Recommend increase grazing pressure.

Orchard Creek RDM location #26, within annual grassland, photo taken from 20 feet. Recommend increase grazing pressure.

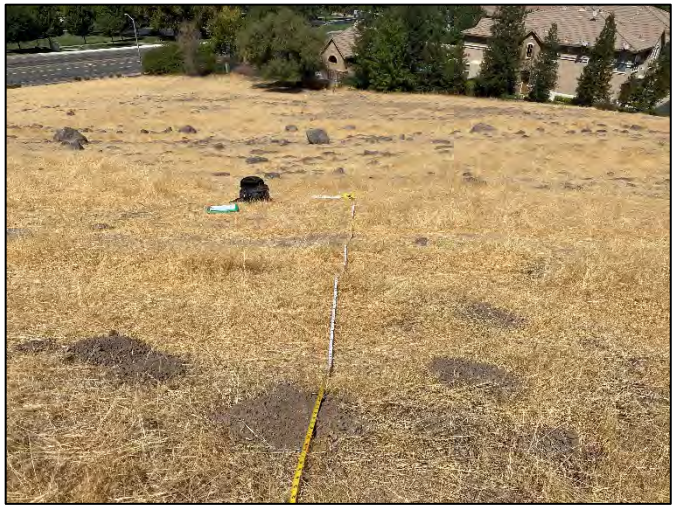
Parklands North RDM location #55, within annual grassland, photo taken from 10 feet. Recommend increase grazing pressure.

Parklands North RDM location #55, within annual grassland, photo taken from 20feet. Recommend increase grazing pressure.

Placer Creek Corporate Center RDM location #31, within annual grassland, photo taken from 10feet. Recommend increase grazing pressure.

Placer Creek Corporate Center RDM location #31, within annual grassland, photo taken from 20 feet. Recommend increase grazing pressure.

Stanford Ranch (SR-15), RDM location #36, within annual grassland, photo taken from 10feet. Recommend maintain grazing pressure.



Stanford Ranch (SR-15), RDM location #36, within annual grassland, photo taken from 20 feet. Recommend maintain grazing pressure.

Stanford Ranch (SR-13), RDM location #40, within mixed oak woodland, photo taken from 10 feet. Recommend to maintain grazing pressure.

Stanford Ranch (SR-13), RDM location #40, within mixed oak woodland, photo taken from 20 feet. Recommend maintain grazing pressure.

Stanford Ranch (SR-19), RDM location #18, within annual grassland, photo taken from 10feet. Recommend reduce grazing pressure.

Stanford Ranch (SR-19), RDM location #18, within annual grassland, photo taken from 20 feet. Recommend reduce grazing pressure.

Stanford Ranch (SR-21) RDM location #38, within mixed oak woodland, photo taken from 10feet. Recommend reduce grazing pressure.

Stanford Ranch (SR-21), RDM location #38, within mixed oak woodland, photo taken from 20 feet. Recommend reduce grazing pressure.

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Attachment J

Representative Site Photos - Routine Maintenance

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Equipment being utilized to aid in beaver dam removal.

An egret was observed hunting during a break in beaver dam removal.

Example of expansive vegetation matting created by water hyacinth.

Crews removing water hyacinth.

Crews removed debris offsite after it was allowed to dry for at least a day.

Waterway after clearing the majority of water hyacinth near Lonetree Boulevard.

Western pond turtles were observed here during the October 6, 2021, survey. No maintenance activity occurred within 200 feet of the location.

A great blue heron was observed utilizing the partially cleared waterway to hunt for prey.

Attachment K

Climatology Data

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Attachment K
Climatology Data - March 2021

Date	Max. Temp.	Min. Temp.	Avg. Temp.	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-03-01	M	M	M	M	M	0	0	M
2021-03-02	M	M	M	M	M	0	0	M
2021-03-03	M	M	M	M	M	0	0	M
2021-03-04	M	M	M	M	M	0	0	M
2021-03-05	M	M	M	M	M	0	0	M
2021-03-06	M	M	M	M	M	0.22	M	M
2021-03-07	M	M	M	M	M	0	0	M
2021-03-08	M	M	M	M	M	0	0	M
2021-03-09	M	M	M	M	M	T	M	M
2021-03-10	M	M	M	M	M	0.31	M	M
2021-03-11	M	M	M	M	M	0.32	M	M
2021-03-12	M	M	M	M	M	0.01	M	M
2021-03-13	M	M	M	M	M	0	0	M
2021-03-14	M	M	M	M	M	0	0	M
2021-03-15	M	M	M	M	M	0.4	M	M
2021-03-16	M	M	M	M	M	0	0	M
2021-03-17	M	M	M	M	M	0	0	M
2021-03-18	M	M	M	M	M	0.05	M	M
2021-03-19	M	M	M	M	M	0.7	M	M
2021-03-20	M	M	M	M	M	0.02	M	M
2021-03-21	M	M	M	M	M	0	0	M
2021-03-22	M	M	M	M	M	0	0	M
2021-03-23	M	M	M	M	M	0	0	M
2021-03-24	M	M	M	M	M	0	0	M
2021-03-25	M	M	M	M	M	0	0	M
2021-03-26	M	M	M	M	M	0	0	M
2021-03-27	M	M	M	M	M	0	0	M
2021-03-28	M	M	M	M	M	0	0	M
2021-03-29	M	M	M	M	M	0	0	M
2021-03-30	M	M	M	M	M	0	0	M
2021-03-31	M	M	M	M	M	0	0	M
Average|Sum	**M**	**M**	**M**	**M**	**M**	**2.03**	**0**	**M**

DAILY DATA FOR A MONTH - daily maximum, minimum and average temperature (degrees F), base 40 and base 50 growing degree days (GDD), precipitation, snowfall and snow depth (inches) for all days of the selected month. Basic monthly summary statistics are also provided. Values of 'M' indicate missing data and values of 'T' indicate a trace.

Attachment K
Climatology Data - April 2021

Date	Max. Temp.	Min. Temp.	Avg. Temp.	GDD Base 40	GDD Base 50	Precipitation	Snowfall	Snow Depth
2021-04-01	M	M	M	M	M	0	0	M
2021-04-02	M	M	M	M	M	0	0	M
2021-04-03	M	M	M	M	M	0	0	M
2021-04-04	M	M	M	M	M	0	0	M
2021-04-05	M	M	M	M	M	T	M	M
2021-04-06	M	M	M	M	M	0	0	M
2021-04-07	M	M	M	M	M	0	0	M
2021-04-08	M	M	M	M	M	0	0	M
2021-04-09	M	M	M	M	M	0	0	M
2021-04-10	M	M	M	M	M	0	0	M
2021-04-11	M	M	M	M	M	0	0	M
2021-04-12	M	M	M	M	M	0	0	M
2021-04-13	M	M	M	M	M	0	0	M
2021-04-14	M	M	M	M	M	T	M	M
2021-04-15	M	M	M	M	M	0	0	M
2021-04-16	M	M	M	M	M	0	0	M
2021-04-17	M	M	M	M	M	0	0	M
2021-04-18	M	M	M	M	M	0	0	M
2021-04-19	M	M	M	M	M	0	0	M
2021-04-20	M	M	M	M	M	0	0	M
2021-04-21	M	M	M	M	M	0	0	M
2021-04-22	M	M	M	M	M	0	0	M
2021-04-23	M	M	M	M	M	0	0	M
2021-04-24	M	M	M	M	M	0	0	M
2021-04-25	M	M	M	M	M	0	0	M
2021-04-26	M	M	M	M	M	0.02	M	M
2021-04-27	M	M	M	M	M	0	0	M
2021-04-28	M	M	M	M	M	0	0	M
2021-04-29	M	M	M	M	M	0	0	M
2021-04-30	M	M	M	M	M	0	0	M
Average|Sum	**M**	**M**	**M**	**M**	**M**	**0.02**	**0**	**M**

DAILY DATA FOR A MONTH - daily maximum, minimum and average temperature (degrees F), base 40 and base 50 growing degree days (GDD), precipitation, snowfall and snow depth (inches) for all days of the selected month. Basic monthly summary statistics are also provided. Values of 'M' indicate missing data and values of 'T' indicate a trace